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"DAWN OF ART" NUMBER

ANNOUNCEMENT

The September issue of ART AND ARCHAEOLOGY will be a Modern American Art Number. It will contain the following articles, richly illustrated:

BUFFALO AS AN ART CENTER

By Cornelia Bentley Sage

THE HISTORY AND MONUMENTS OF
OUR NATIONAL ART

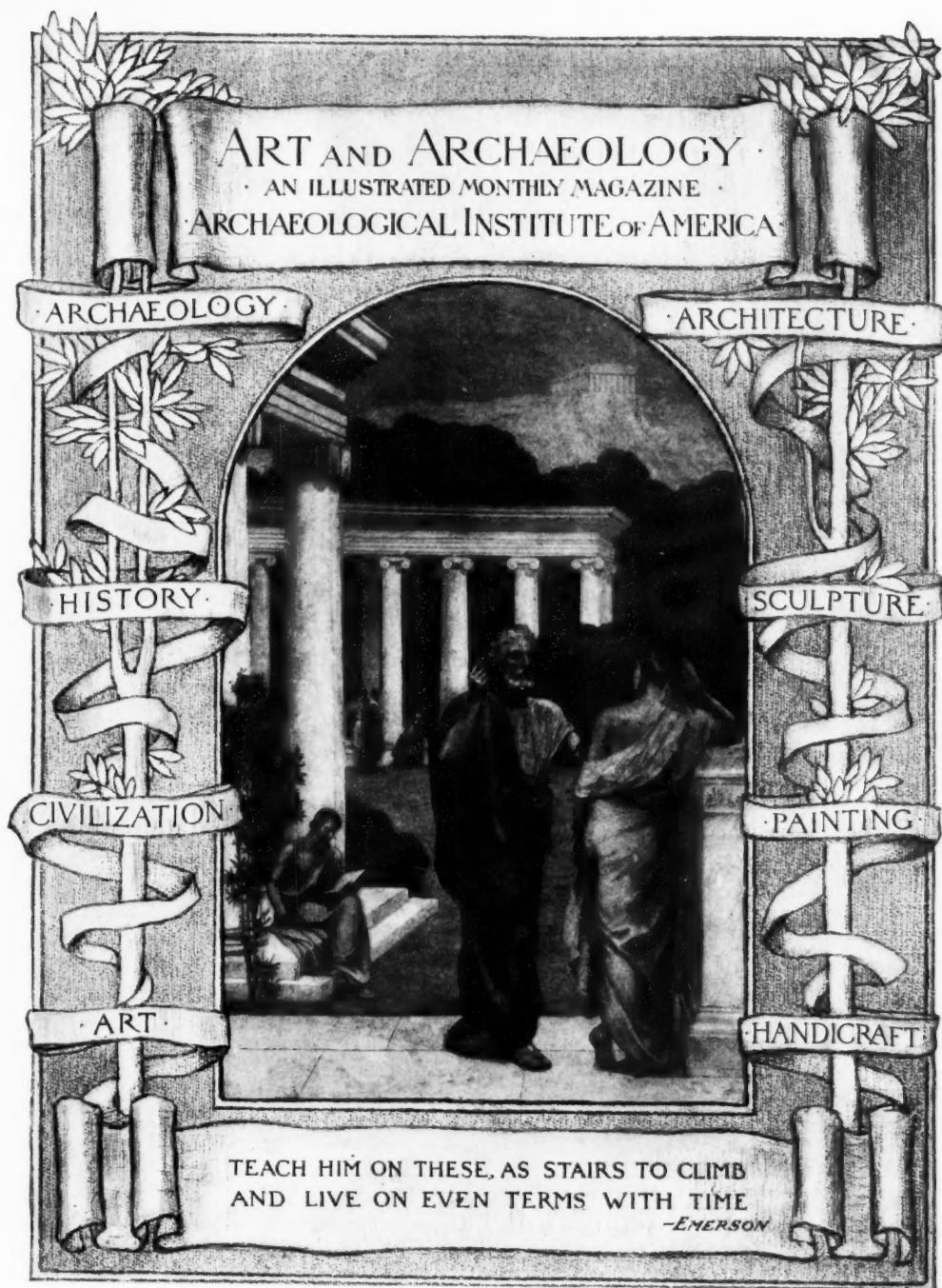
By Fiske Kimball

THE AMERICAN PAINTER, ARTHUR
B. DAVIES

By Duncan Phillips

THE UNVEILING OF THE PEDIMENT
SCULPTURES OF THE HOUSE WING
OF THE NATIONAL CAPITOL

By Paul Wayland Bartlett





Four Stages in the Evolution of Prehistoric Man. (After the restorations modelled by J. H. McGregor in Osborne, "Men of the Old Stone Age.")

1. The Ape-man of Java (*Pithecanthropus Erectus*), probably at least 500,000 years old.
2. The Piltdown Man of Sussex, England—Antiquity variously estimated at from at least 100,000 to 300,000 years.
3. The Neanderthal Man, of La Chapelle-aux-Saints, the Dordogne region of central France—Antiquity estimated as between 25,000 and 40,000 years.
4. The Cro-Magnon type of *homo sapiens*, a race inhabiting southwestern Europe. Antiquity in western Europe estimated as at least 25,000 years.

TO PALAEOLITHIC MAN

(RESTORED IN A MUSEUM)

My Father! Lo, thy hundred thousand years
Are but as yesterday when it is past.
Today thy very voice is in mine ears;
On mine own mirror is thy likeness cast.

Thy sap it is in these my veins runs green;
Thine are these knitted thews of bone and skin;
This cushioned width lay once thy ribs between,
As my heart did with thine its work begin.

Be it however contoured, this frail cup
That holds the stuff and substance of my brain
From thy prognathic skull was moulded up.
Do I not share with thee the mark of Cain?

And should I shudder at the thickened neck,
Full from thy shoulders to thy sloping head?
It bore the brunt of many a rout and wreck
That spared the slender loins whence I was bred.

Nor should I blush, my Father, seeing how
Thy furry jowl is kindred to my cheek;
It shuts upon a tongue, I mind me now,
Which, stuttering, spent itself that I might speak.

I and my brothers roam this rich Today
Unhindered, unafraid, because thy feet,
Stone-bruised and heavy with primordial clay,
God's winepress trod to make our vintage sweet.

What then, Progenitor; shall we repay
Such debt in any coin but filial love?
Leave thy defenceless carcase on display
With fossil horse and pterodactyl dove?

For thee no epic and no monument!
For lesser hero, meaner pioneer,
Our bays and honors; shall thy sons consent
To leave thee standing naked, nameless, here?

FANNY HODGES NEWMAN



Bison, the best preserved polychrome painting of the Old Stone Age. From "La Caverne d'Altamira" by E. Cartailhac and H. Breuil.
Reproduction of the original painting by Abbé Breuil.

ART *and* ARCHAEOLOGY

The Arts Throughout the Ages

VOLUME IV

AUGUST, 1916

NUMBER 2

THE DAWN OF ART CAVE PAINTINGS, ENGRAVINGS AND SCULPTURES

GEORGE GRANT MACCURDY

THE time has come when no history of art can be considered as complete without having for a basis the prehistory of art. Greece had for an immediate background Egypt; Rome in turn had Greece; and western Europe in historic time has profited by the example of all three. In art as well as in all things else, we are largely children of the past, inheriting from a long line of ancestral ages. In addition, thanks to modern discovery and invention, we are in more or less intimate contact with collateral lines of art development; that is to say, we have felt the influence of art currents which, warmed by the genius of the Orient and the Far East, have for ages tempered our shores.

Progress, orderly development, evolution in any branch of human endeavor, imply a starting point. The light of day is preceded by a period of

dawn. It is difficult to conceive of an artist so thoroughly isolated in time and space as to be absolutely devoid of a background of artistic inheritance. One who could be an artist under such circumstances is certainly worthy of a place in our memory and esteem. It was a cold and unresponsive world on which he looked, with no one to help or understand—man alone with Nature, Nature untamed, unconquered, unaltered by those ameliorating influences that we are accustomed to think of as cultural environment.

Who was this dawn artist? Where and when did he live? How did he solve one by one the riddles of art? By virtue of the imperishable nature of the records, and of accidental discoveries as well as diligent, well-directed search in valley terraces, caves, and rock shelters, these questions admit of approximately correct answers.

ART AND ARCHAEOLOGY

The first appearance in Europe of what we are accustomed to call the decorative arts and even the fine arts is coincident with the appearance of a new race, the Aurignacian, the immediate ancestry of which has not yet been definitely traced, and which supplanted completely the archaic Neandertal race of Mousterian times. Physically and mentally the Aurignacians, such as are represented by the skeletons of Cro-Magnon and Combe-Capelle, were more nearly akin to the modern European races than to the old Mousterians. Culturally the differences are at once so great as to make it very difficult to conceive of the Aurignacian as having been a direct outgrowth of the Mousterian age.

Aurignacian culture is found in western and central Europe as well as on practically the whole periphery of the Mediterranean. Its starting point has not yet been determined. According to Breuil, there is more evidence in favor of an African than of an oriental origin. Southwestern Europe itself, however, may yet prove to have been the cradle of art.

The thickness of the Aurignacian deposits in caves and rock shelters and the evolution of the culture there portrayed prove the epoch to have been a long one. Many Aurignacian loess stations have recently come to light, making it possible to determine approxi-

mately at least the relation of the Aurignacian epoch to glacial chronology. Aurignacian remains occur in the upper part of the recent loess which is assigned to the Würm or last great glacial epoch.

The fine arts and the love of ornament seem to have developed at the same time; for not only in graves but also elsewhere are found bone and ivory pendants as well as perforated shells and animal teeth that were evidently

used as necklaces and otherwise. In the Cave of La Combe (Dordogne), excavated by the Yale Museum during the summer of 1912, we found a human lower molar tooth perforated for suspension as an ornament—the only example of its kind thus far reported in cave art. At the same Aurignacian level we also found perforated animal teeth and one that was grooved to serve as a pendant.

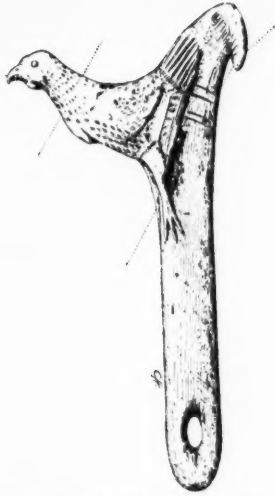
Certain female figurines dating from the Aurignacian epoch are represented as wearing bracelets. The practice of painting or tattooing the body was no doubt common among the cave dwellers.

Palæolithic art objects may be classed under two heads: portable and stationary. The portable class is found in the floor accumulations of caves and rock shelters as well as in valley deposits. It consists in part of decorated tools, weapons and ceremonial objects, the art playing perhaps a supplementary



The first artist, Aurignacian man (Restoration by Rutot and Mascré).

ART AND ARCHAEOLOGY



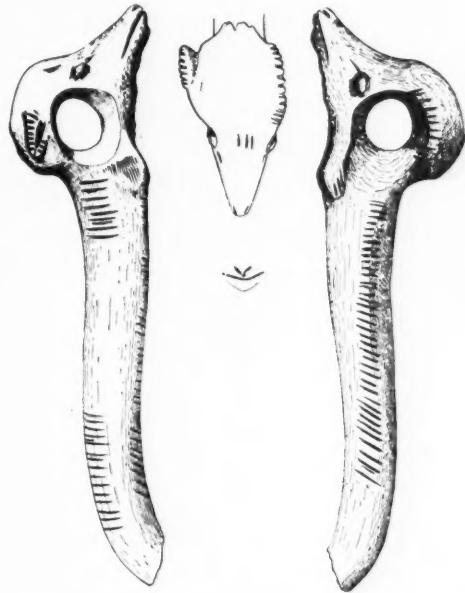
Dart-thrower, carved in reindeer horn and representing a grouse. The missing parts outside the dotted lines restored by Breuil Mas d'Azil (Ariège), after Breuil. Piette Collection.

rôle to utility and the day's work. It also includes engraved pebbles as well as carved fragments of stone, ivory, bone, and the horn of reindeer and stag, in fact almost anything that could be seized upon to satisfy the exuberant demands of the caveman's artistic impulse. The stationary works of art are those that embellish the walls and ceilings of caverns and rock shelters; in rare instances the clay of the cavern floor was utilized for modeling and sketching purposes.

The scientific world has been more or less familiar with the portable class of palæolithic art objects for more than half a century. Our acquaintance with Quaternary mural art is of much more recent date. The first discovery was by Sautuola at Altamira, northern Spain, in 1879. Inspired by what he had seen at the Paris Exposition of 1878, Sautuola was searching in the floor deposits of Altamira for relics of ancient man. With nothing else to do, his small

daughter who had accompanied him scanned by chance the low ceiling over her head. In the dim candle light her eye caught the unmistakable outlines of a strange beast painted in fresco (page 70). A cry of surprise brought her father, who soon discovered the other figures on this now celebrated ceiling (page 75). Sautuola divined from the first the true significance of this remarkable artistic display and published a pamphlet on the subject the following year. Not prepared for such a startling innovation, the scientific world remained skeptical. Nearly twenty years later similar discoveries by Daleau and Riviere in France brought to the Spanish savant tardy, yes, even posthumous, nevertheless complete vindication.

Chiefly for two reasons has it been possible to trace the evolution of Quaternary mural art, namely, its relation



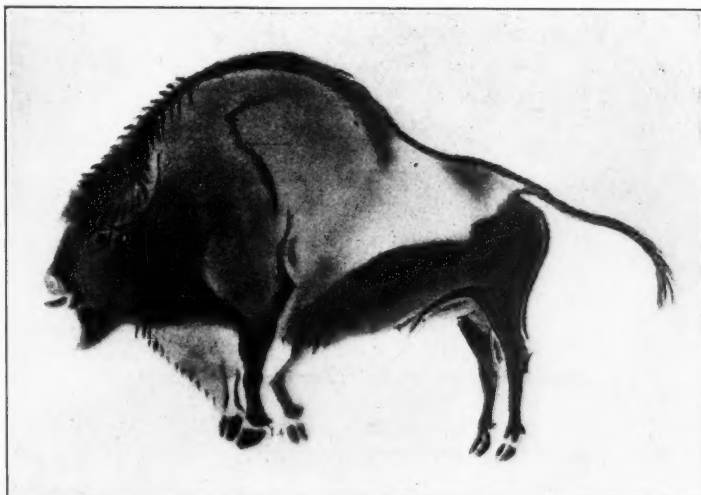
Baton sculptured at one end to represent the head of a fox. From the lower Magdalenian layer at the cavern of Placard (Charente). After Breuil. Collection of Maret.



Polychrome Bison. From "La Caverne de Font-de-Gaume" by L. Capitan, H. Breuil, and D. Peyrony.
Reproduction of the original painting by Abbé Breuil.

ART AND ARCHAEOLOGY

to the floor deposits and the superposition of figures. The age of relic-bearing floor deposits is determined by the relics themselves. It often happens that mural art is found to be completely covered by accumulations on the floor of the cavern. The mural art in such a case is older than the deposit which covers it. Thus at Pair-non-Pair rude, deeply engraved, parietal figures (page 76) were completely



The bellowing bison, polychrome fresco, from the famous ceiling, cavern of Altamira, near Santillana, northern Spain. After Cartailhac and Breuil.

lost to view beneath deposits of upper Aurignacian age. The engravings are therefore anterior to the upper Aurignacian. They represent the first or oldest phase of engraving. At La Grèze a wall engraving was buried beneath a deposit of Solutrean age. It also belongs to the first phase. A mural fragment may become detached, fall to the floor, and be buried, thus approximately dating that portion which remains on the wall. Again the similarity of art objects from the floor deposits to the

mural art may serve to date the latter.

As to the superposition of parietal figures, it is often very difficult to ascertain which is the older and which the younger, if both are incised. On the other hand, if one is incised and the other painted, the problem is simple enough. Either the incised line cuts the painting or is filled by the color. In the first case the engraving is the younger, in the second the painting. The relation between superposed frescoes is likewise easily established. Thus has Breuil been

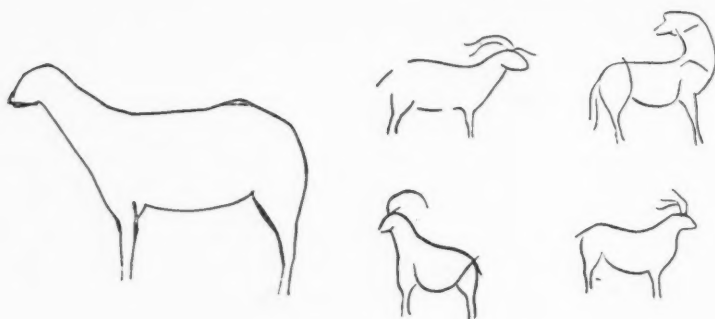
able to trace the evolution of palæolithic mural art through at least four phases.

The first phase includes deeply incised figures, generally in absolute profile, *i. e.*, with a single forefoot and a single hindfoot, the outlines being



Outline sketches of the frescoes on the ceiling of the cavern of Altamira at Santillana, near Santander, northern Spain. After Cartailhac and Breuil.

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Rude, deeply engraved mural engravings, from the cavern of Pair-non-Pair (Gironde). First phase; Aurignacian age. After Daleau.

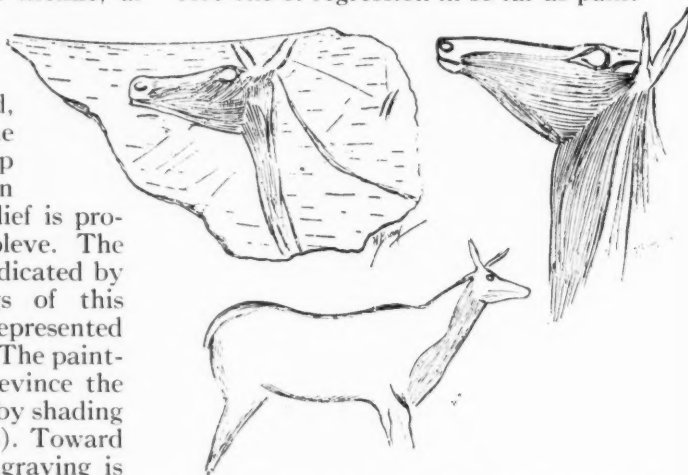
rude, ill-proportioned, and details such as hair and hoofs not indicated with precision. The paintings of this stage are in outline, the color being black or red and drawn with a crayon; there is absolutely no thought of modeling.

The incised figures of the second phase remain rather deep and broad; but the outlines are more lifelike, although not always well proportioned. All four of the legs are sometimes represented, likewise the hoofs. As the incisions become less deep they gain in neatness. In places the effect of bas-relief is produced by means of *champlevé*. The more hairy portions are indicated by incised lines. Engravings of this stage are especially well represented at Combarelles (page 77). The paintings of the second phase evince the first attempts at modeling by shading at certain points (page 78). Toward the close of this phase engraving is combined with painting, especially for the contours. The use of color continues to develop until one arrives at a well-modeled monochrome silhouette, usually in black.

The engravings of the third phase

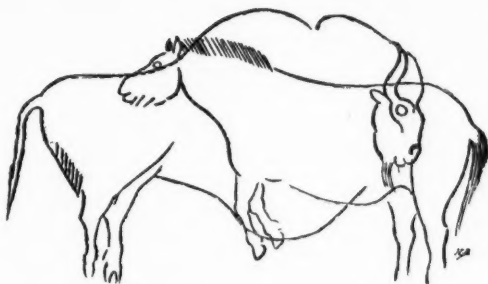
are generally of small dimensions but admirable in execution. The entire mural decorations in the Cavern of La Mairie at Teyjat are in this style. A good example is the group engraved on stalagmite. The horns and eye of the stag are true to nature; as is also

the second attempt at outlining the muzzle (page 78). In the domain of painting, this phase is characterized by an excessive use of color, filling completely the silhouette and producing a flat effect. The modeling that was such an attractive feature of the preceding stage is destroyed. The period is therefore one of regression in so far as paint-



The head and neck of a hind engraved on bone; from the floor deposits, cavern of Altamira. Early Magdalenian age. The other two engravings of the hind are from the cavern wall at Castillo, near Santander, Spain. These are also of early Magdalenian age because similar engravings on bone were found in floor deposits of that age at Castillo. After Breuil.

ART AND ARCHAEOLOGY



Mural engraving of bison and horse. Cavern of Combarelles, near Les Eyzies (Dordogne). Second phase; after Breuil.

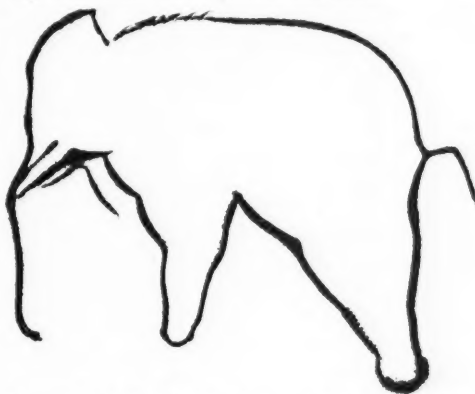
ing is concerned. Black, red, or brown was used and the drawing was frequently deplorable. As a rule these paintings are not well preserved. The best work of this period is to be seen at Font-de-Gaume (page 79), and is executed in black or brown. It is often combined with engraving of a high order done before the color was applied.

During the fourth phase the engravings lose in importance. The lines are broken and difficult to follow. The small figures of the mammoth at Font-de-Gaume (page 79); and of the bison at Marsoulas, show this tendency to emphasize detail at the expense of the ensemble. Palæolithic painting reaches its zenith in the fourth stage. The fresco is always accompanied by a foundation of engraving. The outlines are usually drawn in black, as are the eyes, horns, mane, and hoofs. The modeling is done with various shades produced by mixing of yellows, reds, browns, and blacks. These polychrome figures are seen at their best on the famous ceiling at Altamira, as well as at Font-de-Gaume (see pages 70, 74, 80, 86)..

One of the striking features about palæolithic art is its realism. This is especially true of the phases leading to the period of its highest development. Recent investigations confirm in the

main Piette's views as to the relation of sculpture to engraving and painting in the evolution of Quaternary art, although the successive stages overlap more than he had supposed. Sculpture appeared in the lower Aurignacian, but continued without interruption through the Solutrean and to the middle of the Magdalenian—a much longer period than Piette had in mind. Although beginning but little earlier than engraving, sculpture came to full fruition first. Engraving, on the other hand, developed more slowly at first, not reaching its zenith till the middle Magdalenian, when it supplanted sculpture.

The sculptor's problem is in many respects the simpler, his opportunity of success greater. Not confined to a single aspect of his model, he has as many chances of succeeding as there are angles from which to view his work. The engraver or painter, on the other hand, must seize the likeness at the first attempt or else fail. His model was almost always an animal form, generally a quadruped. The most striking, as well as the most complete, single aspect of a quadruped is its profile. This happens to be the view that can be most easily represented on a plane surface.



Drawing in red of the elephant. Cavern wall at Castillo, near Santander. First phase; after Breuil.

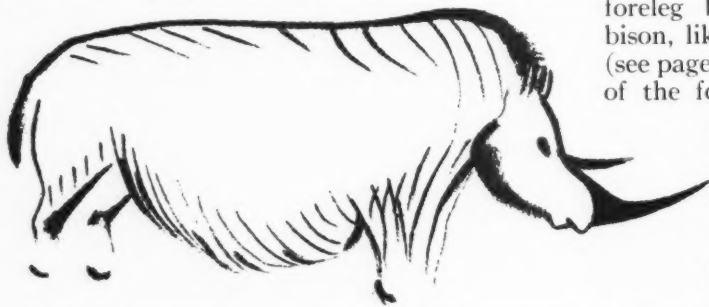
ART AND ARCHAEOLOGY

Combined with the artist's skill in handling animal profiles is his skill in executing profile figures that represent the model in a variety of attitudes: running, leaping, walking, standing, browsing, lowing, at rest, chewing the cud, rising from the ground, at bay, etc. By degrees the stiffness of the profile was overcome. The movement of the body and especially the legs in action is often portrayed with a fidelity that will even stand the test of comparison with a moving-picture film. The artist seems to have met in a most ingenious fashion the difficulty of giving to a motionless figure the effect of movement (page 80). Objects at rest leave a more distinct image on the retina of the eye than those in motion. Movement in a given direction is likewise more easily followed than movement that changes in direction. Confusion is increased in proportion to the number of moving objects viewed at the same time. The eye follows a single spot on the rim of a revolving wheel after the images of the spokes have multiplied by attenuation and finally fuse into one diaphanous disk. The four legs of an animal in motion are especially difficult to follow because of the changes in the direction of motion. The slowing up of the swing in preparation for the change



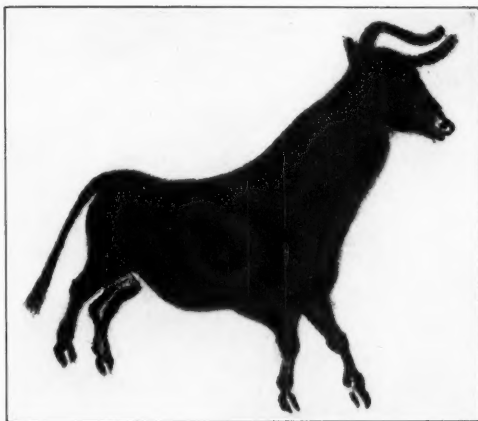
Engravings on a mass of stalagmite. The group includes a stag, horse, female reindeer and fawn—Cavern of La Marie at Teyjat (Dordogne). Third phase. After Breuil.

of direction gives the retina a chance to register an image of the member at the two extremes of its trajectory. The number of legs therefore has the appearance of being doubled. In this way M. Faure explains the presence of the eight legs given to the wild boar on the ceiling at Altamira; also that of an additional foreleg beneath the pawing bison, likewise from Altamira (see page 75). The two images of the foreleg in motion are quite naturally represented as less distinct than any of the three legs at rest. If this explanation is correct, and there is much to be said in its favor, the Magdalenian artist must be credited with an un-



Drawing in red of the woolly rhinoceros. From the wall of the cavern of Font-de-Gaume, near Les Eyzies (Dordogne). Second phase. After Capitan, Breuil, and Peyrony.

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Black mural painting of the ancestral ox (*Bos primigenius*). Cavern of Font-de-Gaume, near Les Eyzies (Dordogne). Third phase. After Capitan, Breuil, and Peyrony.

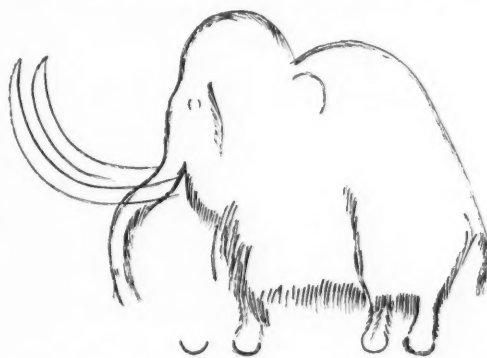
precedented grasp of fundamental principles.

On the other hand, compositions in the true sense are rare. The placing of figures in proximity often means nothing more than the desire to economize all the suitable available space. In addition figures are often superposed either unwittingly or otherwise (page 81). Thus the work of Aurignacian artists was constantly in danger of being injured at the hands of the Magdalenian artists; just as the works of both have been mutilated in modern times by those who carelessly scratch their names where they are liable to do harm. The most common form of assembling two or more related figures is the procession, the suggestion of a herd, or a hunting scene. An excellent example of the herd was recently discovered in the Cavern of La Mairie at Teyjat (Dordogne). It represents a herd of reindeer (page 82). The three in the lead are fairly well differentiated, as is also one at the rear. The space between is filled in by cross-hatching similar to that on

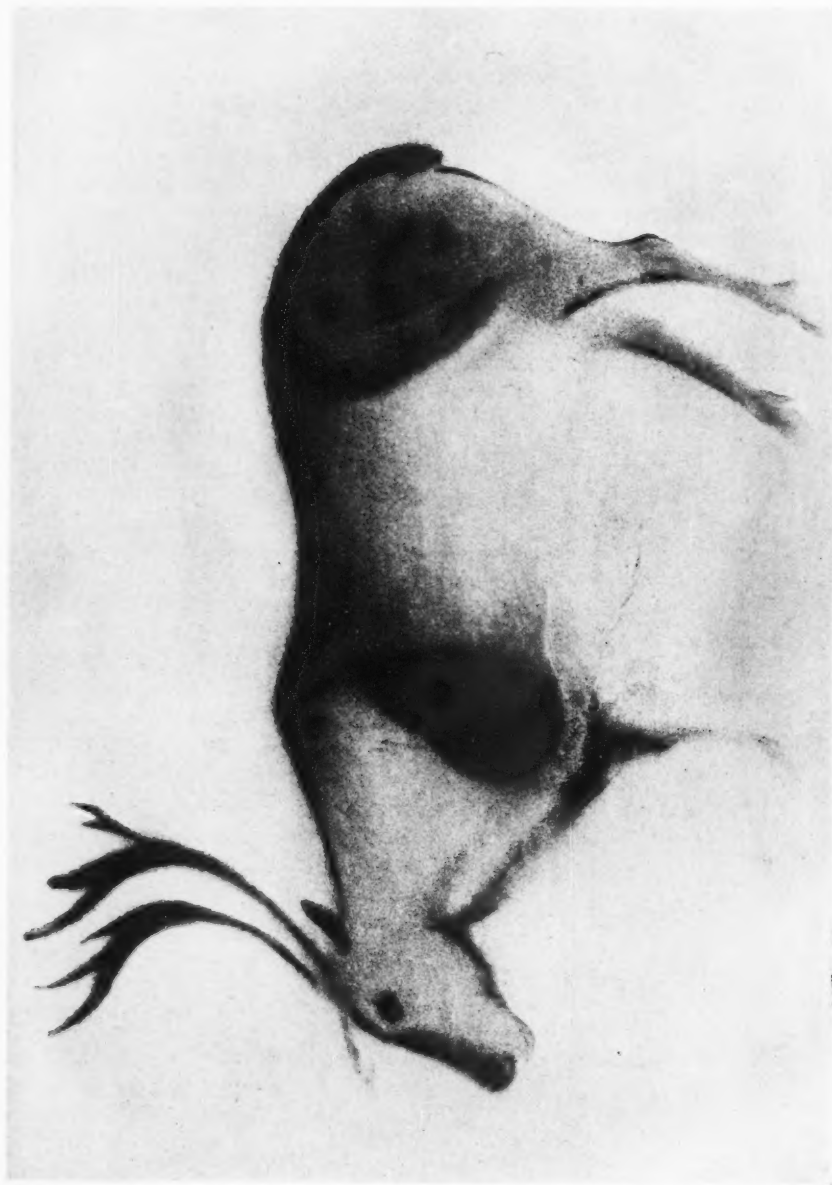
the bodies of the leaders, representing therefore the undifferentiated bodies of those in the middle of the herd. Above rises a forest of horns. These being the characteristic feature of the animal, are exaggerated as if to make up for the artist's sacrifice of detail with respect to body and limbs. The entire group is delicately incised on the radius of an eagle, that was found in the upper Magdalenian layer of the cavern floor. In modern times this piece of work would perhaps be called impressionistic. It is a good example of the conventionalism that was manifest in cave art even at a rather early period.

After all, many of the processes which lead to conventionalism are but short cuts to the artist's goal, that goal being to convey a given impression. For reasons to be stated, this tendency does not seem to have gained much headway in cave art with the possible exception of certain motives consisting of spirals, circles, and kindred forms that might have been derived from the eye, horns, and other animal features (page 82).

Realism was the essence of palæolithic art. For an animal figure to be real it should be complete. The animal head, both front and profile views, was,



Engraving of the Mammoth. Cavern of Font-de-Gaume (Dordogne). Fourth phase, Magdalenian age. After Capitan, Breuil, and Peyrony.



Polychrome Reindeer. From "La Caverne de Font-de-Gaume" by L. Capitan, H. Breuil, and D. Peyrony.
Reproduction of the original painting by Abbé Breuil.

ART AND ARCHAEOLOGY

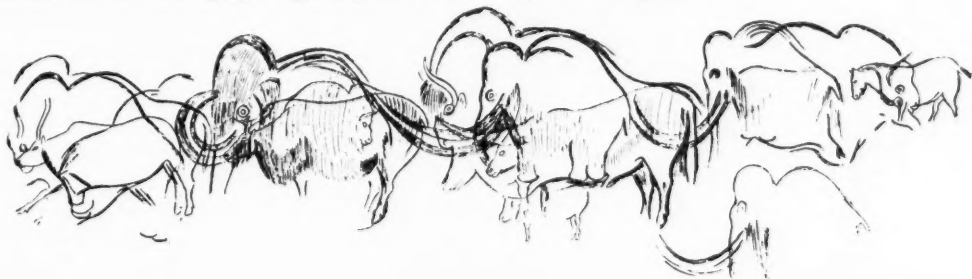
however, sometimes every effectively employed, even being repeated to form a decorative motive. A wand found in the rock shelter of Mège at Teyjat is ornamented with the stag-head motive viewed from in front. The piece comes from deposits of middle Magdalenian age. Another example of the stag-head motive, viewed from the side, is from Laugerie-Haute (page 83). To substitute the head for the whole animal is to let down one of the bars to conventionalism, a tendency which is all but universal in art; at the very close of the Magdalenian age we find the horns alone being used as a decorative and symbolic motive to represent not only the stag's head, but the entire animal (83).

Ignorance of the laws of perspective seems to have deterred the troglodyte artists from often attempting the front view of the whole quadruped figure. That such attempts met with indifferent success is to be seen in the figure of a moose or elk (page 85) engraved on



Engravings on reindeer horn of the stag and salmon. From the cavern of Lorthet (Hautes-Pyrénées). Magdalenian age. After Piette.

reindeer horn from the lower Magdalenian horizon in the cavern of Gourdan (Haute-Garonne). In another example from the same level at Gourdan, representing a bovidian, the engraving seems to have been signed. One frequently finds the horns represented as if seen from the front, while the rest of the figure is in profile.



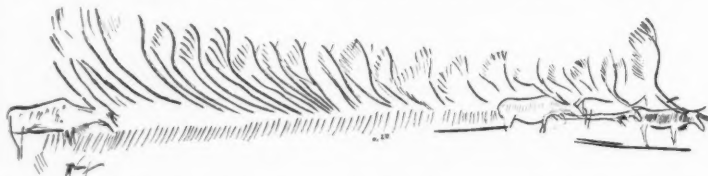
Superposed figures of the mammoth, bison, horse and reindeer, in one place four deep; length of the series about five meters. The foundation of incised lines is seen above. Cavern of Font-de-Gaume (Dordogne). After Breuil.

ART AND ARCHAEOLOGY

In comparing palæolithic art with any art period that followed, one encounters various difficulties. It differs not only from neolithic art, but also from the art of modern primitive races. The artist's models were almost without exception from the animal world, chiefly game animals. Conditions favoring progress in art are normally just the reverse of those that would make a hunter's paradise. With the increase in density of population there would be a corresponding decrease of game. The animal figures were no doubt in a large measure votive offerings for the multiplication of game and success in the chase of animals. The more realistic the figure the more potent its effect would be as a charm. The mural works of art—figures of male and female, scenes representing animals hunted or wounded—are generally tucked away in some hidden recess, which of itself is witness to their magic uses.

The mythical representations so common to modern primitive art and to post-palæolithic art in general, are foreign to palæolithic art. There were no

gods unless the somewhat rare human figures served also as such; no figures with mixed attributes, as is so well typified in the gold figurines of ancient Chiriqui, on the Isthmus of Panama, or in the Hindu and Egyptian panthe-



Representation of a herd of reindeer incised on the wing bone of an eagle. Cavern of La Marie at Teyjat (Dordogne). Late Magdalenian age. After Breuil.

ons. The palæolithic artist left frescoes, engravings, bas-reliefs, and figures in the round of the horse, but there is not a single figure of a centaur.

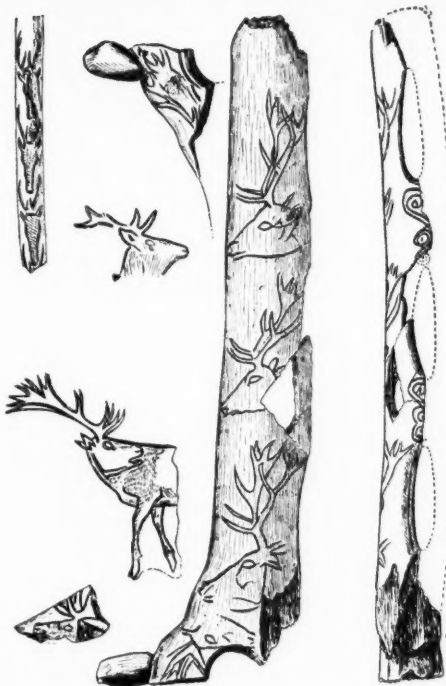
The cave man's love for the real, the natural, as opposed to the mythical, the artificial, is likewise seen in his representations of the human form. A child will draw the figure of a man or woman as clothed, but with the legs, for example, showing through the dress. The same thing was done by the artists of ancient Egypt. Not so with the cave artist. That palæolithic man of the art period wore clothing, the numerous delicate bone needles afford abundant testimony; but with a single possible exception (Cogul in southeastern Spain) and that, if an exception, dates from the very close of the palæolithic period, the human form was represented in the nude.

There is very little evidence that masks were used either ceremonially or for stalking purposes. A male figure wearing a mask representing the head of a horse has been reported from the Magdalenian deposits in the cave of Espelugues at Lourdes. Three engravings on a bâton de commandement from the rock shelter of Mège at Teyjat (Dordogne), in which the chamois-head



Circles, spirals, and kindred forms that might have been derived from the eye, the horns, and other animal features. Lourdes (Hautes-Pyrénées). After Piette.

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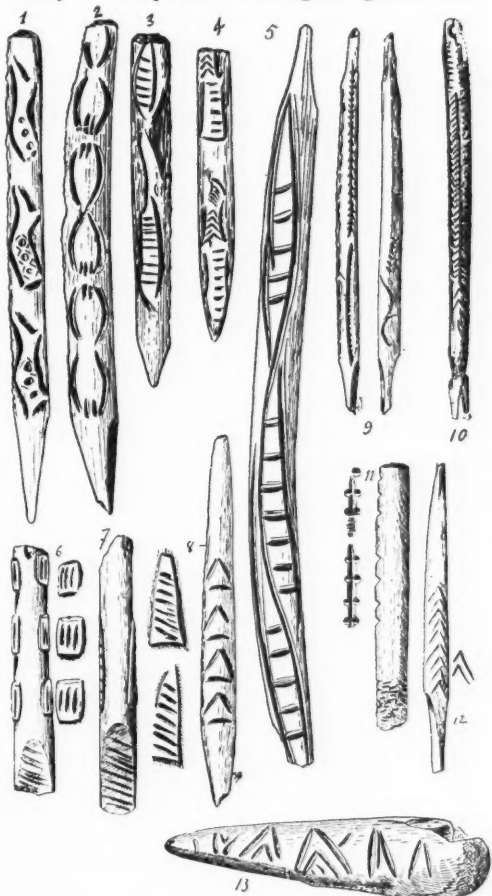
Front and profile views of the stag's head. Magdalenian age. After Capitan, Breuil, and Peyrony.

mask is seen, have been reproduced by Breuil (page 87). An example was likewise found at Mas d'Azil—a man wearing a bear's head mask.

Art objects dating from the palæolithic period have every appearance of being originals and not copies. Ear-marks of the copyist are singularly lacking. The work was done either in the presence of the model or with the image of the latter fresh in the memory. Since the animals almost without exception are represented as alive and not dead, and since the living wild animal has no inclination to accommodate the artist by posing either at rest or in action, the probability is that much of the work was done from memory by making a composite of the various fleeting glimpses of the model. Animals

were sometimes captured alive; some of these might have been tethered temporarily for the benefit of the artist. This, however, would be impracticable for an artist whose canvases were not portable; and the best works are on the walls of dark, narrow, subterranean corridors, where the presence of the model of a bison or mammoth would be absolutely impossible.

Such considerations as these lead naturally to the problem of lighting and the



Various objects with decorations that typify the closing episode of the Magdalenian epoch. No. 2 is an illustration of the stag-horn motive. After Breuil.



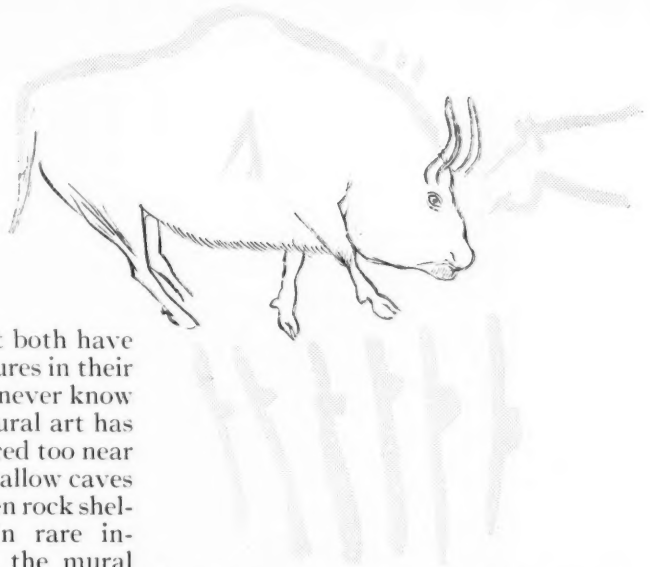
A lion on a column of stalagmite; by the application of paint the artist completed a figure already blocked out fortuitously by nature. Cavern of Castillo, Puente Viesgo, northern Spain. After Alcalde del Rio, Breuil, and Sierra.

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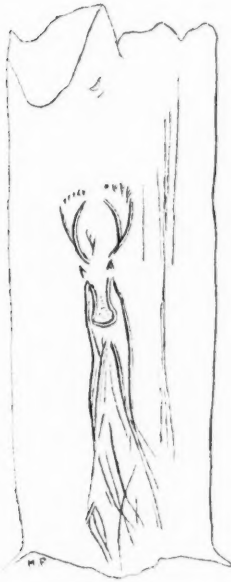
artist's general stock in trade, so far as facilities are concerned. Examples of parietal art are nearly all of them far removed from daylight and the damaging effect of atmospheric agencies. The picture gallery at Niaux is nearly half a mile from the cavern entrance. The stillness and blackness of darkness are oppressive, but both have combined to preserve the figures in their original freshness. We shall never know how much of Quaternary mural art has been destroyed by being placed too near the cavern entrances or in shallow caves

and open rock shelters. In rare instances the mural art of even French rock shelters, Cap Blanc for example (page 87), have been preserved because covered by subsequently accumulated talus. In the dry, mild climate of southern Spain, the mural art even in shallow caves has been fairly well preserved, especially where the rock is hard.

The cavern artist employed artificial light. An insignificant number of stone lamps, similar to the Eskimo lamp, have been found in the floor deposits of



Wounded bison, in part engraved and in part painted (red); to the right the head of a horse, incomplete; below six claviform figures, Pindal (Asturias), northern coast of Spain. After Alcalde del Rio, Breuil, and Sierra.



Front view of a moose engraved on reindeer horn. Early Magdalenian age. Cavern of Gourdan (Haute-Garonne), France. After Liette.

certain caves. The artist's tools were as primitive as his method of lighting. Caverns begin as series of fissures. They were enlarged by subterranean streams that were active in Pliocene times. In their making there was very little consideration for the convenience of the Quaternary artist who came after. Wall space, therefore, had to be selected with care and the surface was nearly always prepared for the fresco by scraping and by incised contour lines. Embossments of suitable shape and size were often selected so as to give to the figure the effect of relief (pp. 84 and 86).

The colors used by the ancient artists are insoluble in water and contain no organic matter. Ochreous sesquioxide of iron containing a very small quantity of oxide of manganese furnished the warm tints; oxide of manganese with a small percentage of sesquioxide of iron



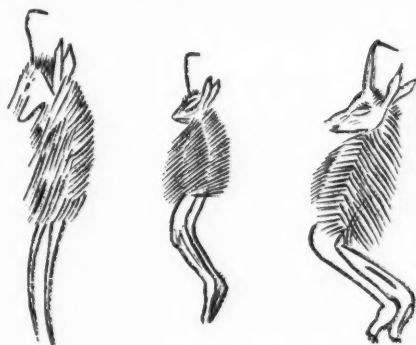
Bison at rest. From "La Caverne d'Altamira" by E. Cartailhac and H. Breuil. From the original painting by Abbé Breuil.

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was employed for the darker shades. These minerals were picked up on the surface or in stream beds. Specimens of a uniform tint were chosen and the material was scraped off in the form of a powder by means of a flint scraper. The powder was caught in a stone mortar or bivalve shell and reduced to greater fineness. It was mixed with some medium, perhaps grease, and applied by means of a simple brush.

Bivalve shells and even bone tubes served as receptacles for the mixed paint; and at least one stone palette with the mixed paint still upon it has been reported from Cap Blanc, evidently the one that was employed in painting the relief figures of the horse (see page 87). Paint brushes, made of less durable materials, have perished. The color was also applied by means of crayons whittled from chunks of ochre or oxide of manganese. A number of such crayons have been encountered in the floor deposits, especially at the cave of Les Eyzies near Font-de-Gaume. In some cases the crayons are grooved or perforated for suspension, thus affording greater safety and easy of carrying.

With such a wonderful record of



Three small figures wearing chamois-head masks engraved on a baton from the rock shelter of Mège at Teyjat (Dordogne). After Capitan, Breuil, and Peyrony.

achievement in sculpture, bas-relief, engraving, and painting, one might expect to find at least a beginning in the field of ceramic art. Practically all modern primitive peoples are familiar with the plastic possibilities of clay. Remains of the potter's art are abundant during the ages of iron and of bronze as well as the neolithic period. A characteristic of paleolithic stations has been the complete absence of pottery.

On July 20, 1912, Count H. Begouen and his three sons, while exploring a subterranean stream bed, Tuc d'Audoubert, near his Chateau "Les Espas" at Saint-Girons (Ariège), discovered a series of connected caverns, on the walls of which they found a number of engravings (page 88). In October of the same year Count Begouen, continuing his exploration of Tuc d'Audoubert, discovered a chimney-like opening high



Horse in high relief sculptured on the wall of the rock shelter at Cap Blanc, near Les Eyzies (Dordogne); length 2.15 meters. Magdalenian age. After Lalanne.

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on the side of one of the large galleries. To this he ascended by means of a ladder. It proved to be a long, narrow corridor. His progress was eventually stopped by two large white stalagmite pillars between which one could see that the passageway extended further. After breaking down the pillars, Count Begouen and his sons followed the passage, which soon led to an ample gallery. Traversing this gallery with expectancy, they came upon two lifelike



Horse wounded in the side by darts. Mural engraving. Cavern of Tuc'd Audoubert (Ariège). After Count Begouen.

figures of the bison modeled in clay—a female followed by a male (page 89). These had never been wholly separated from the clay matrix, out of which they were fashioned; they seem to stand out of the sloping clay talus that flanks a fallen rock. The modeling is done in a masterly fashion. The figures are slightly cracked, but otherwise just as the artist had left them. They were not hardened by fire and hence cannot be removed.

These are the only examples of palæolithic modeling in clay thus far encountered and no doubt owe their preservation to the accidental and fortunate guarding of the passage to the gallery by Nature's own sentinels. In view of the excellence of these two figures, it is probable that they are not unique specimens, that perhaps other clay figures, less fortunately situated, have been completely destroyed because the modelers were unacquainted with the secret of tempering and firing their products. The need of something less difficult to manipulate than stone, ivory, bone, or

horn must have been ever present in the experience of the troglodyte artist. That he should, therefore, have finally hit upon clay is not surprising, even if he did just fall short of discovering the ceramic art.

The latest discovery by Count Begouen was made only a few days before the declaration of war. In fact it was on July 20, 1914, exactly two years after his discovery of Tuc d'Audoubert, that Count Begouen and his three sons descended by an opening, until then unknown, into a superb cavern, which in their honor he has named *Caverne des trois Frères*. It is not more than a quarter of a mile from Tuc d'Audoubert. On the floor they found many bones, flint implements, and objects bearing man's handiwork; one of these was a bone fragment with an excellent engraving of a fish.

But the chief display of art was on the walls where more than 200 admirably engraved figures of animals are to be seen. There are also anthropomor-

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phic figures including a curious female type drawn in black; it seems to be walking almost on all fours with the head surmounted by a reindeer horn. It might represent a human figure wearing a mask, or perhaps a figure with mixed attributes; if the latter, then we have a new note in palæolithic art, for until now that art has revealed no representations of mythological creatures.



Male and female bison modelled in clay. Cavern floor of Tuc d'Audoubert (Ariège). After Count Begouen.

In mural engravings this cavern is said to be the richest and the most beautiful thus far discovered. Its further study will await the close of the war; for it can be understood why Count Begouen does not wish to return to the cavern so aptly named until he can do so accompanied by his three sons, should they be so fortunate as to return from the front.

By the close of the Magdalenian epoch, the continental ice sheet had already retreated far to the north and the area of Alpine and Pyrenean glaciation was much reduced. Cold-loving animals such as the mammoth, the woolly rhinoceros, and the reindeer had followed the retreating ice towards the north where, of the three, only the reindeer still survives. Forever linked with these and other animal forms, palæolithic art likewise disappeared. The complete story of its taking off has not as yet been written. It came unheralded and went in like manner. The time had come for the swing of the culture pendulum in another direction, perhaps toward other and more serviceable, if less

artistic, channels of thought expression. The Azilians who succeeded the Magdalenians seem to have turned their attention toward a system of cursive writing, if certain archaeologists are correct in their interpretation of the painted pebbles of Mas d'Azil and other stations dating from the same epoch. The first experimenters in the great domains of agriculture and the domestication of animals were yet unborn; since unmistakable traces of their work do not appear until neolithic times.

From the standpoint of priority of antiquity then, the artist has special reason to be proud. He follows a calling that had its worthy devotees ages before any other method of leaving imperishable records of human thought was known. Man was artist, therefore, before he was the maker of even hieroglyphs. He tamed his imagination and his hand to produce at will objects of beauty long ages before he tamed the first wild beast or made the humble plant world do his bidding.

In the history of art there are many

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bright pages; certain epochs have shone more resplendent than others; but the age par excellence of fundamentals in art dates from the last great ice age, estimated at from 20,000 to 40,000 years ago. There is a lesson for each of us in the story of the troglodyte artist. Without a background of art inheritance and beset by insuperable difficulties on every hand, he chose imperishable media through which to impart important truths. He was not without his reward. First there was the sense of satisfaction in the achievement, which must have been keen; then came oblivion for countless ages. Nature and

human ignorance combined to weave an enduring protective mantle over those primeval art objects—a mantle that was not lifted until near the close of the nineteenth century. They have finally come to light not to be destroyed, but preserved in so far as this can be done by combined local, governmental, and scientific agencies. If France has her Louvre, she likewise has her Font-de-Gaume; and the art student who would visit the Prado Museum at Madrid should also not fail to include the Quaternary Gallery of the Bisons at Altamira.

Yale University



THE GREAT TEMPLE OF AMONRA AT KARNAK

(Illustrated with Original Photographs by the Writer)

GARRETT CHATFIELD PIER

KARNAK is one of the most ancient monumental cities of the world. To Queen Hatshepsut, who lived as early as 1500 B. C., it was "a holy place from *immemorial* time." Thus she refers to it in an inscription engraved upon the base of her giant obelisk at Karnak. The prehistoric implements which have been found within sight of the great Karnak pylons attest the truth of that famous queen's words. Karnak itself provides relics which take us back to the period of the Second Dynasty, or about 3000 B. C.

There were originally three distinct towns at Thebes, each with its own local god or genius. The first town was near Medinet Habu, on the Western bank, the second at Luxor near Amenhotep's great temple, and the third, the oldest, perhaps, at Karnak to the north.

Thebes was of little importance until about the Eleventh Dynasty (2160 B. C.), when the Antef princes of Thebes declared themselves Pharaohs, and extended their sway from the First Cataract to Abydos.

The greatest monarch of this line was the second Mentuhotep. This king's ruined pyramid temple and tomb may still be seen at Der el-Bahri, across the river from Karnak. Under the monarchs of the Twelfth Dynasty (2000 to 1788 B. C.), Thebes was beautified with many superb temples and shrines, remains of which have survived to our own day. Far earlier temples were destroyed to make way for these.

Beginning with Ahmose I (1580 to 1557 B. C.), the Pharaohs of the New

Empire conducted extensive works at Karnak, and, under Thothmose III, the Conquerer of Asia, Thebes became the greatest city of the ancient world.

Amenhotep III, "The Magnificent," reaped the full benefit of the vast wealth bequeathed to Egypt by Thothmose III, Amenhotep II and Thothmose IV, his immediate successors. Under him Thebes was in the full plenitude of her power both at home and abroad. Under him, the Nubian tribute of gold, ivory and ebony and the Asiatic tribute of silver, gold, electrum and precious stones, came regularly, year after year, to his lake-set palace near Medinet Habu. Egypt was for a time at peace and the princes of Asia, Nubia and the Greek Islands might tread the narrow Theban streets in safety.

Ascending the "Golden Horus Throne of his Ancestors" about the year 1411 B. C., Amenhotep reigned over the two Lands some thirty-six years. During that time he built many new temples and "renewed" an innumerable number both in Nubia and Egypt proper.

In place of the small temple of Luxor, which, with additions, had served its purpose since the days of Ahmose I, King Amenhotep erected the famous Colonnaded and Hypostyle Halls now known as the Temple of Luxor.

About 500 feet in length and 180 in width, this beautiful building was connected with the Temple of Amon at Karnak by means of a paved highroad, some 600 yards long and 80 in width. The road was flanked on either side by



One of the four obelisks of Thothmose I—1547 to 1501 B. C.—a rose granite monolith 76 feet high, showing also the ruined pylons, the remains of the eastern end of the great Hypostyle Hall of King Thothmose. From the photograph taken by the writer in 1898.

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painted sandstone sphinxes. Along this highway, the New Year's procession took its way, while the great gold-overlaid cedar Barge of Amon was towed up stream, and the gold statue of the god brought to rest for a time in his sanctuary at the southern end of the Luxor temple. One can hardly write of Karnak without a reference to the Luxor temple, so intimately con-

IX, turns west then north again and soon finds oneself upon the temple's Landing-Stage, the latter now some 600 yards from the Nile. A short row of Ram-sphinxes erected by Rameses II (1292-1225 B. C.) fronts the giant sandstone Entrance-Gate (Pylon I). This great pylon, though never completed, still commands respect. Especially is this the case if one is so fortunate as to



Landing stage opposite the Temple of Luxor, Thebes, looking north down the Nile—from a photograph taken by the writer in 1913.

nected are the Temples of the Northern and Southern appts as they were called.

The highroad appears to have connected Luxor with that part of the Karnak Temple erected during the reign of Amenhotep. It not improbably came in along the west front of the great Pylon of that monarch which stands just behind the Great Hypostyle Hall, that is, before Pylon III.

To enter the Great Amon temple today, one follows the Sphinx Avenue as far as the picturesque Gate of Ptolemy

be in a position to climb the steep ascent to its summit. The view up and down the Nile, and of the Lybian Hills to the west, well repays such a tax upon one's energies.

The Great Forecourt dates from the Twenty-sixth Dynasty, or about the Seventieth Century, B. C. It is almost square in shape, its straight lines being broken on the right by the inward push of the well-preserved Temple of Rameses III. The uninteresting sandstone structure to the left of this Forecourt



Rose granite portal block of Thothmose III beyond the columned hall of Thothmose I—the inscription to the right recalls the building operations of Thothmose III in this Temple. From a photograph taken by the writer in 1898.

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The short Sphinx avenue of Rameses II fronting the western or main entrance of the great Temple of Amonra, Karnak.

was dedicated by Seti II (1209-1205 B. C.) to the Theban Triad, Amon, Mût and Khonsu. The ram-headed

sphinxes, which stand in a long line immediately behind and beyond these buildings were to be used in some such manner as the sphinxes fronting the Entrance-Pylons. Continuing onwards



The west side of the court of Rameses II (1292-1225 B. C.), with rose granite statues of that monarch, Temple of Luxor, Thebes. From a photograph taken by the writer in 1913.

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towards the famous Hypostyle Hall, one passes through what was once a short line of beautifully proportioned columns erected by the Ethiopian monarch, Taharka (688-663 B. C.). But a single one of the ten great shafts now survives. Before entering the Hypostyle Hall, one generally turns to the right and passes through the exit between the right pylon and the Temple of Rameses, an exit known as the Bubastite Gate. Here, to the left, one may examine the reliefs seen upon the outer or southern walls of the Pylon of Rameses, the famous reliefs of the wars of Sheshonk I (945-924 B. C.).

We see Sheshonk smiting the Asiatics and Amon-ra handing to him the *kopesh* or "curved sword of victory." Among the names of captured towns is one "The Field of Abram" which has a biblical tang to it. Jordan also is

mentioned, which reminds one that the Bible has also left a record of this Pharaoh's victory, for we read:

And it came to pass in the fifth year of King Rehoboam, that Shishak, king of Egypt, came up against Jerusalem, and he took away the treasures of the house of the Lord, and the treasures of the king's house; he even took away all; and he took away all the shields of gold which Solomon had made.

This treasure was no doubt "counted into the Treasury of Amon-ra, king of gods," as the inscriptions so often record.

Returning to the right of the beautiful solitary column of Taharka's short colonnade, one passes between the gigantic painted pylons of Rameses I, pylons erected from the ruins of a destroyed temple built by the "heretic king," Amenhotep IV. We now enter the wonderful Hypostyle Hall.



Colonnade of Amenhotep III (1411-1375 B. C.), composed of 14 columns some 51 feet in height. From a photograph taken by the writer in 1913.

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Painted sandstone portal of Ptolemy IX and entrance pylons to Temple of Khonsu, erected by Rameses III (1198-1167 B. C.). From a photograph taken by the writer in 1898.

When one comes to examine it, there is here something reminiscent of the unfinished Great Colonnade of Amenhotep's Temple of Luxor. Harmhab, last king of the Eighteenth Dynasty, added to this Luxor Temple, we know, and it may have been the design for the latter temple which fired Harmhab with the idea of erecting this "pronaos" to what eventually became the greatest temple of either the ancient or modern world.

Imagine, if you can, a vast square court covering some 50,000 square feet and enclosed in walls and giant pylons decorated with bright reliefs and hieroglyphs. Running down the center is a row of richly-painted sandstone columns, eighty feet high and thirty-three feet in circumference. On either

side of this central colonnade stand sixty-one closely-set columns, a trifle shorter and smaller around than the giants of the central colonnade, but of equal grandeur of proportion and richness of decoration.

Rameses I inscribed his name upon one column, Seti's name appears upon seventy-nine and the remaining fifty-four bear the names of a number of the later kings. The hall was originally roofed with gigantic flat sandstone blocks painted blue and dotted with gold stars or solar disks with outspread vultures' wings. It was lighted by the subdued light that filtered through a sort of pierced stone grating or clerestory, remains of which may still be seen *in situ*.



Looking down main axis of the Hypostyle Hall, Temple of Amonra, Karnak. Twelve columns eighty feet high and thirty-three in circumference, flanked by sixty-one columns, forty feet in height. This Hall or Pronaos covers fifty thousand square feet. Begun by Harmhab, 1350-1315 B. C. From a photograph by the writer, 1898.

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Arriving at the upper or eastern end of this grand hall, and passing through the Third Pylon erected by Amenhotep III, we find ourselves in what is commonly called the Central Court of the original Eighteenth Dynasty Temple. We must now appreciate the fact that all the buildings so far described are later additions to this Eighteenth Dynasty Temple, even as the Eighteenth Dynasty Temples we shall now describe are additions to the Twelfth Dynasty Temple which originally stood somewhat further on, that is, to the east.

We see before us the only obelisk left standing of four colossal granite shafts which stood before the original main entrance of the Eighteenth Dynasty Temple. This rose-granite monolith towers seventy-six feet into the air, having been erected by Thothmose I somewhere between the years 1535 and 1501 B. C. Continuing eastward, we pass through the ruined pylons erected by that monarch and enter what was originally an open court, a court beautified with painted cedar columns by Thothmose I and, later on, restored by Thothmose III, who pulled down the earlier wooden columns and replaced them by great lotus columns of sandstone.

The famous daughter of Thothmose I, Queen Hatshepsut, erected here two colossal granite obelisks, one of which still stands upon its square granite base. It is a monolith and rises to a height of 97½ feet. Upon the north side of the base of this monument Queen Hatshepsut has written the following dedication:

This it is that was made by me. Take heed least ye say I know not, I know not (who raised it) . . . of a truth these are two huge obelisks brightened by my majesty with gold for Amon, her father's sake, and out of love for him, in order to perpetuate his name

that they might stand erect in the temple precinct for ever and ever. They are of one solid block of granite, without joint or division in them. My majesty began this work in her fifteenth year the first day of the month Mechir up to the sixteenth year, and the last day of the month Messori, which maketh but seven months since the beginning of it in the mountain.

By "the mountain," the great queen refers to the famous granite quarries at Assuan near the First Cataract. She further says:

Having melted electrum, I placed one half upon their shafts, unheeding the mutterings of men, for since the utterance of my mouth is law in all that cometh out of it, I cannot retract that which I have already uttered. So hear me then! I placed on them the finest electrum, and I weighed it by the bushel even as if it was corn. My majesty myself did cry the number of the weight.

Thothmose III, who followed Hatshepsut on the throne, sought to hide her obelisks, that part of them at least which was visible in the colonnade hall of her father, the hall which he restored. To do so he had the obelisks walled up to the very roof of the hall.

Passing through the upper or Eastern Pylons, similarly built by Hatshepsut's father, the first Thothmose, we come into another columned hall erected by him and added to again by Thothmose III and stand before a splendid granite doorway erected by the latter monarch. On either side carved in sandstone we see lists of the many cities and states subdued by the "Conquerer of Asia."

The court beyond, commonly called "The Court of the Lotus and Papyrus Pillars," is another relic of the zeal of Thothmose III and one of the most beautiful of the smaller sculptural monuments to be seen in Egypt. Beyond this again is the Holy of Holies, or Sanctuary. This building is of granite engraved with designs representing its last restorer, or rather rebuilder, Philip

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III of Macedon (318 B. C.) greeted by Amon-ra. In this dimly lighted chapel stood the gold figure of the sun-god Amon, a figure only taken from this building on some such grand occasion as the accession of a Pharaoh, the New Year's Feast or a Feast of Victory. If we may judge from representations seen upon the southern side of the building, great white linen wings hid from view the cedar or ebony shrines in which such sacred figures of deities were kept.

The chambers to the left of the Sanctuary, erected by Thothmose III, show many of the beautiful Asiatic vessels in silver, gold and electrum which were a part of the great spoil of war "counted into the treasuries of Amon-ra" following the conquest of the Near East by that war-like monarch. Beyond the Sanctuary stood one of the early (Twelfth Dynasty) temples. Under Thothmose III the site was levelled and turned into a great open court with chapels on either side. The great Festival Hall of Thothmose III was erected at the far eastern end, and this monarch continued the hall by a colonnade, though there is a broad space of open ground between this, the last of the Karnak buildings along the central alignment, and the splendid sandstone gateway built into the huge encircling wall of the temple precinct eastward, a gate completed by the Ptolemies.

Space forbids our speaking at length of the spirited reliefs to be seen on the walls at the north side of the Hypostyle Hall (exterior). Yet the designs are of great historical interest, as they show various phases of the wars undertaken in order to regain Egypt's lost Asiatic possessions, lost under the later kings of the Eighteenth Dynasty, especially Amenhotep IV, the religious fanatic.

Concerning the great riches possessed by the temple of Amon at Karnak many

a monarch has left record. Rameses III says: "Its beauty is unto the dome of heaven, its august pillars are of electrum," and Amenhotep II says: "I made for Amon a hall in Karnak, a thing of wonder unnumbered in decorations of gold, unnumbered in decorations of malachite and lapis lazuli, bright with flowers and filled with slaves." And Rameses III again says:

I made for thee great tables of gold and others of silver, a huge vase of pure silver, rimmed with gold and engraved with thy cartouche. I wrought images of Mût and Khonsu of fine gold heavily inlaid with insertions of every precious stone which Ptah the Creator hath created, with collars in front and back and pendants of gold, great memorial-tablets for the Entrance Gate covered with gold, and having designs inlaid in Kedem gold and large vases beneath covered with silver and having inlaid designs down to the floor. I cut for thee thy august Barge, two hundred and twenty-three feet in length upon the water, from the giant cedars of my own estate. It is of wondrous size and covered with gold down to the water's edge. A huge gold shrine was in its midst inlaid with every precious stone even as is a palace, and having ram's heads of gold both at bow and stern, and uræus-serpents wearing atef-crowns. . . .

I set out sweet-smelling sycamores in thy temple precinct. I planted thy city of Thebes with trees, shrubs, bulbous plants and flowers for thy nostrils.

Today it is sometimes difficult to get a native to guide one to the border of the sacred lake at Karnak. This is due to a myth current in Luxor homes that at times one may still see the great gold Barge of Amon floating slowly back and forth upon its placid waters. One may still hear the clash of sistra, cymbal and menat, the click of ivory castanet, the strumming of the great harps and the soft voices of the Singing Women of Amon as they chant the sacred ritual. The sound of the unseen choir has power to charm away men's minds! A glimpse of the ghostly Barge spells death!

THE ANCIENT CITY OF PETRA, WONDER OF THE DESERT

GEORGE L. ROBINSON

FOR centuries the ruins of Petra remained quite unknown to the world. To be sure Pliny had recorded that "the Nabataei inhabit a city called Petra in a hollow somewhat less than two miles in circumference, surrounded by inaccessible mountains, with a stream running through it" (vi, 28). And Strabo, speaking of the Nabataeans during the reign of Augustus, had described their capital as follows: "The metropolis of the Nabataeans is Petra, so-called, for it lies in a place in other respects plain and level, but shut in by rocks round about, precipitous indeed on the outside, but within having copious fountains for a supply of water and the irrigation of gardens" (xvi, 4, 21).

Volney in 1787 received a hint of the city's importance from the Arabs around Gaza (*Voyage en Syrie*, ii, p. 317), and in 1807 Seetzen, while on an excursion from Hebron to the hill of Madurah (Mount Hor), had an Arab guide who exclaimed one day, "Ah, how I weep when I behold the ruins of Wady Musa!" (Zach's *Monatliche Correspondenz*, xvii, 1808, p. 136), but neither Volney nor Seetzen was able to continue his journey to the magic spot.

It was left for Burckhardt in 1812 actually to visit the place and identify its ruins with the site of the celebrated capital of Arabia Petreæ (*Travels*, 1818). Meanwhile Ritter independently suggested the identity of Wady Musa with Petra on the basis of Seetzen's report (*Erdkunde*, ii, p. 117). Their identity is now generally admitted.

Arab historians never mention Petra, and only two ever speak of Wady Musa, Kazwiny in the seventeenth century and Ibn Iyâs in the fifteenth; and they merely relate a Mohammedan legend that Moses died and was buried in this valley. Indeed, it is noteworthy that after being lost to the world for over a thousand years, when Petra finally emerges, Moses, Aaron and Pharaoh have, according to Mohammedan tradition, taken possession of the region. But the traditions of the Moslems have ordinarily little value.

Comparatively few Europeans have ever visited Petra. Since Burckhardt's identification of this wild desert metropolis, however, the following tourists and explorers have succeeded in examining at least superficially its celebrated ruins: Irby and Mangles (1818), Laborde and Linant (1828), Stephens (1836), von Schubert (1837), Edward Robinson (1838), John Wilson (1843), Miss Martineau (1847), Dean Stanley (1853), Duc de Luynes (1864), Visconti (1865), Palmer (1870), Doughty (1875), E. L. Wilson (1882), Hull, Hart, Armstrong and Kitchener (1883), Hornstein and Forder (1895), Lagrange, Vincent and Musil (1896), Brünnow and Domaszewski (1897), Sir Charles W. Wilson (1898), G. L. Robinson (1900), and Dr. G. Dalman (1904); some visited Petra several times.

The Arabs call the valley in which this wonderful rock city is situated Wady Musa. It is a question whether the Hebrew name Sela', in the Old Testament, which like the Greek name



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Rock-hewn Temple of Isis ("The Treasury"), Petra, Syria.

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Petra signifies "a sharp, jutting rock," points to the same site. In Judges 1 : 36, for example, Sela', or "the rock," which is mentioned as a boundary between Judah and the Amorites, must have been located in the neighborhood of the Akrabbim near the southwest corner of the Dead Sea. The reference in 2 Kings 14 : 7, on the other hand, to Amaziah's victory over the Edomites in the valley of Salt, when he took Sela' by war and called the name of it Joktheel, more probably refers, as E. Meyer thinks, to Petra. Musil, however, suggests a place, Khirbet Sela', near Bozrah. Other references to Sela', in Isaiah 16 : 1; 42 : 11, are less definite. But whether these passages in the Old Testament refer to Petra or not, it is difficult to think that a site so strategic and of such commercial importance, and so admirably fortified by nature, could have wholly failed to attract the attention of the ancient Edomites.

"Rekem" also was a name given by the Syrians to the valley, according to Jerome; but it was likewise given to Kadesh, according to the Talmud. This coincidence, coupled with Jewish tradition in the same direction, led Dean Stanley to identify Petra with Kadesh. Josephus proffers an explanation of Petra's having been called Rekem—from the Midianite prince Rekem who fell in battle with Israel in Moab in the days of Phinehas (Numbers 31 : 8). Of course it is only natural to attribute to the rugged rocky valley of Wady Musa all that sacred or profane history has recorded of any rock, fortress or city of Edom. But how, or when, the name Petra was dropped or Wady Musa adopted we have no means of ascertaining.

Adequately to describe Petra is an impossible task. Human language lan-

guishes as it attempts to portray the beauty and grandeur, the majesty and magnificence of this "Wonder of the Desert." Even the least enthusiastic visitor breaks out into the language of astonishment. No other ancient city so quickens the imagination. The artist Roberts confesses in his Journal: "I did not expect to be much surprised at Petra after seeing Thebes. But the whole is far beyond any idea which I had formed of it in both imagination and situation. Its beauty grows on the eye. I am more and more bewildered with the aspect of this extraordinary city. Though the ruins are immense, they sink into insignificance when compared with these stupendous rocks. I often threw aside my pencil in despair of being able to convey any idea of the scene." A more recent missionary tourist thus describes the panoramic picture which he beheld as he approached the city from the northeast: "Suddenly there burst into view a wonderful mass of castellated peaks, domes, pinnacles, and other fantastic shapes, with indescribable coloring, from snow-white at the base to purples and yellows and crimsons higher up, bathed and transformed in the brilliant sunshine till it seemed like a literal fairy land. We gazed enchanted, for somewhere in the heart of this brilliant mass lay the ancient city of Petra about which we had read and dreamed and were now to see with our own eyes" (Hoskins, *The Jordan Valley and Petra*, ii, p. 38).

To enter the city enclosure properly one should approach from the east. In that case he will pass through a narrow cleft or gorge, fully a mile long, called the *Sik*. This defile is one of the most glorious and romantic avenues of its kind in all nature. It serves also as Nature's aqueduct to convey water to the place. A tiny stream flows under

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Front view of the Great High Place, Petra, Syria.

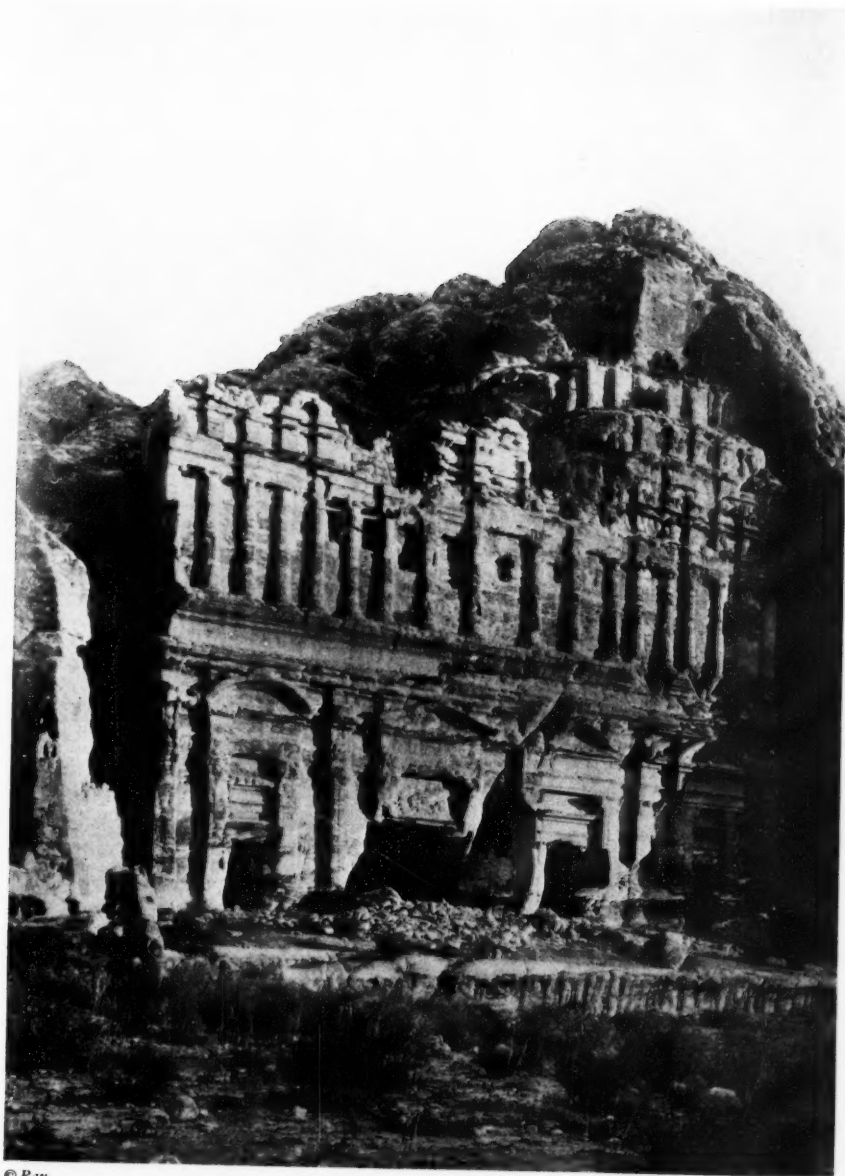
one's feet. Lord Lindsay in speaking of this marvelous gorge says, "I never saw anything so wildly beautiful." It is both narrow and deep. The cliffs which bound it are tinted with all the colors of the rainbow.

On emerging from this delightful dell, the explorer stands face to face with one of the most sublimely beautiful rock-cut temples of Petra—indeed, of the world. It is known to the Arabs as *el-Khazneh*, or, "the Treasury," and stands 90 feet high. One is at a loss to know whether to admire more the richness and exquisite finish of its decorations, or the savage scenery of its surroundings. No part of it is built; it is wholly and purely a work of excavation, and it stands intact, with the single exception of one column which has fallen. As Irby and Mangles put it, "There is in fact scarcely a building of

forty years, standing in England so well preserved in the greater part of its architectural decorations." It is difficult, nay, well-nigh impossible, to exaggerate its beauty and grace and loveliness. Lord Lindsay confesses, "The Khazneh far surpassed my expectations. It was so chaste in its style, so beautiful in its details, so fresh looking, and in such perfect preservation. The natural color of the stone being that of the rose it is easy to imagine its loveliness bathed in the sun's rays." Nature in her most savage wildness is here tempered by the graceful art of civilized man.

Dean Burgon in his prize poem entitled "Petra" enshrines something of its beauty in the following sonnet:

"It seems no work of man's creative hand,
By labor wrought as wavering fancy planned;
But from the rock as if by magic grown,
Eternal, silent, beautiful, alone!



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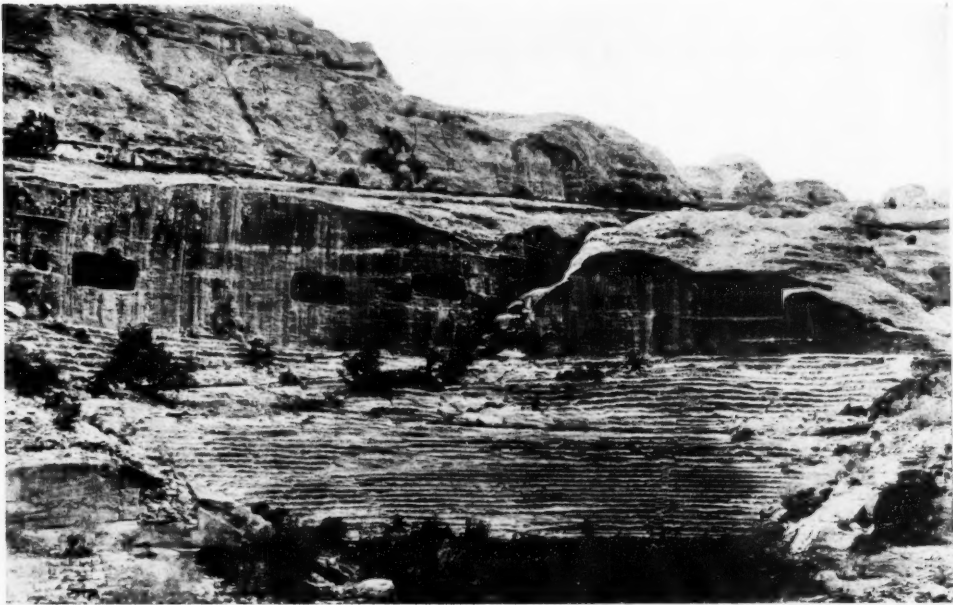
The Temple with three Tiers, Petra, Syria.



© Rau

The Khazneh from the Gorge of the Wady Sik, Petra, Syria.

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© Rau

The Theatre, Petra, Syria.

Not virgin-white like that old Doric shrine
Where erst Athena held her rites divine;
Not saintly-grey, like many a minster fane
That crowns the hill and consecrates the
plain;

But rosy-red as if the blush of dawn
That first beheld them were not yet with-
drawn;

The hues of youth upon a brow of woe,
Which man deemed old two thousand years
ago.

Match me such marvel save in Eastern clime,
A rose-red city half as old as Time."

A little below the Khazneh, in the narrow Wady before it broadens out into the actual site of the city, stands the Theatre, which also is hewn out of the mother rock, and is capable of seating not fewer than 3000 souls. All about it, before and behind, and at right and left, stand gaping, and almost vocal, numerous tombs of the dead. Laborde's comment on the proximity of theatre and tombs, of life and death,

is most suggestive: "What a strange habit of mind," he remarks, "the people of Petra must have possessed thus to familiarize themselves constantly with the idea of death; as Mithridates accustomed himself to poison in order to become insensible to its effects." And Dr. Edward Robinson, conscious of the weird sacredness of the surroundings in which he spent an evening, writes thus: "Around us were the desolation of ages; the dwellings and edifices of the ancient city crumbled and strewed in the dust; the mausolea of the dead in all their pristine beauty and freshness, but long since rifled and the ashes of their tenants scattered to the winds. Well might there be the stillness of death; for it was the grave itself, a city of the dead, by which we were surrounded" (p. 534).

In the hollow basin below of the city proper, only a standing column, and a

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© Rau

The Necropolis, Petra, Syria.

badly dilapidated building called by the Arabs "the Castle of Pharaoh," stand to assist the imagination as it attempts to reconstruct the many and stately buildings which once adorned the ancient site. The "Castle" is curiously, not to say fantastically, constructed with double walls, and wooden joists let into the masonry to receive the fastenings for ornaments of stone and stucco. What the real purpose of the building was it is impossible to say.

Near by, rises majestically the lofty citadel of the city—a mountain honeycombed with sepulchres, and on its apex the foundations still of what once was probably a large Crusaders' castle. Tombs everywhere; here, a "rainbow" tomb; there, an unfinished sepulchre showing how the ancient stone-cutters probably began at the top and worked downward; and there still another with

Columbaria, or niches for receiving the ashes of the dead; all together constituting the most remarkable necropolis of antiquity!

Far away, at least a mile, to the west, high up on the heights of the main range of Mount Seir, but still well within the zone of the city's confines, is situated the *Deir*, or Monastery of the place. In size and grandeur it rivals the Khazneh. Kinnear calls it "the most extraordinary of all the ruins of Petra." The chasm approach to it is nothing less than wonderful. Jebel Nebi Harun stands directly opposite. The view from the roof of the *Deir* to the west over the mountains of Edom and the deep Arabah beyond is one long to be remembered. The whole region is unique in its wilderness effect.

But it is after all the coloring of the rocks of Petra which makes the deepest

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impression. Probably nowhere else in the world can the traveler find such depth of color or variety of pattern. The walls of rock reminded Hull, the English geologist, of the patterns on highly painted halls, Eastern carpets, or other fanciful fabrics of the loom. The deepest reds, purples, and shades of yellow are here arranged in alternate bands, shading off into each other, and sometimes curved and twisted into gorgeous fantasies. These effects, he explains, are due to the infiltration of the oxides of iron, manganese and other substances, and are frequent in sandstones to various degrees; but nowhere probably do they reach the variety of form and brilliancy of coloring to be found in Wady Musa, amongst the ruins of Petra.

Historically, Petra was the capital of the Nabatæans, or Early Arabs, who flourished here between 300 B. C. and 200 A. D. The Nabatæans dwelt in towns, drove a flourishing trade and attained a high degree of prosperity and culture. They spoke Arabic, but in default of a script of their own they used Aramaic for writing (Nöldeke, *Die Semitischen Sprachen*, pp. 30, 43). Mohammedan authors identify them with the Aramæans, but careful study of their inscriptions has shown that this view, which was accepted by Quatremère (*Journal Asiatique*, 1835, p. 209), is erroneous.

The kingdom of Petra was annexed by Trajan to the Roman Empire in 105 A. D. Whether the city perished through the ruthless rage of their subsequent conquerors, or whether it was

destroyed little by little through the incursions of the desert hordes, is utterly unknown. Probably the hand of man has been assisted by the hand of time.

"How changed—how fallen! all her glory fled,
The widow'd city mourns her many dead,
Like some fond heart which gaunt disease
hath left

Of all it lived for—all it loved—bereft;
Mute in its anguish: struck with pangs too
deep

For words to utter, or for tears to weep."

Roberts in his *Journal* gives an artist's farewell to Petra and the Land of Edom, which is suggestive: "I repeatedly turned to look on this doomed city; so sad a memorial of Divine judgment, yet possessed of a strength which must have scorned all human instruments of destruction; placed in the bosom of impenetrable mountains with walls so formed by nature that to them the works of man shrank into insignificance. Though in the midst of deserts, its climate is not surpassed by any in salubrity; the soil is watered by numerous streams, and its mountains cultivated to the very summits; the plain below is covered with the most splendid temples and other public buildings; and the rocks themselves so filled with excavations that they resound under the foot. Yet with all this, and with a population of hundreds of thousands, all now is loneliness; its history is almost unknown, and the wandering Arab attributes its very existence to enchantment."

McCormick Theological Seminary



The Annunciation of the Virgin—Detail. By Leonardo, under Verrocchio's direction.

SOME RECENT LEONARDO DISCOVERIES

FRANK JEWETT MATHER, JR.

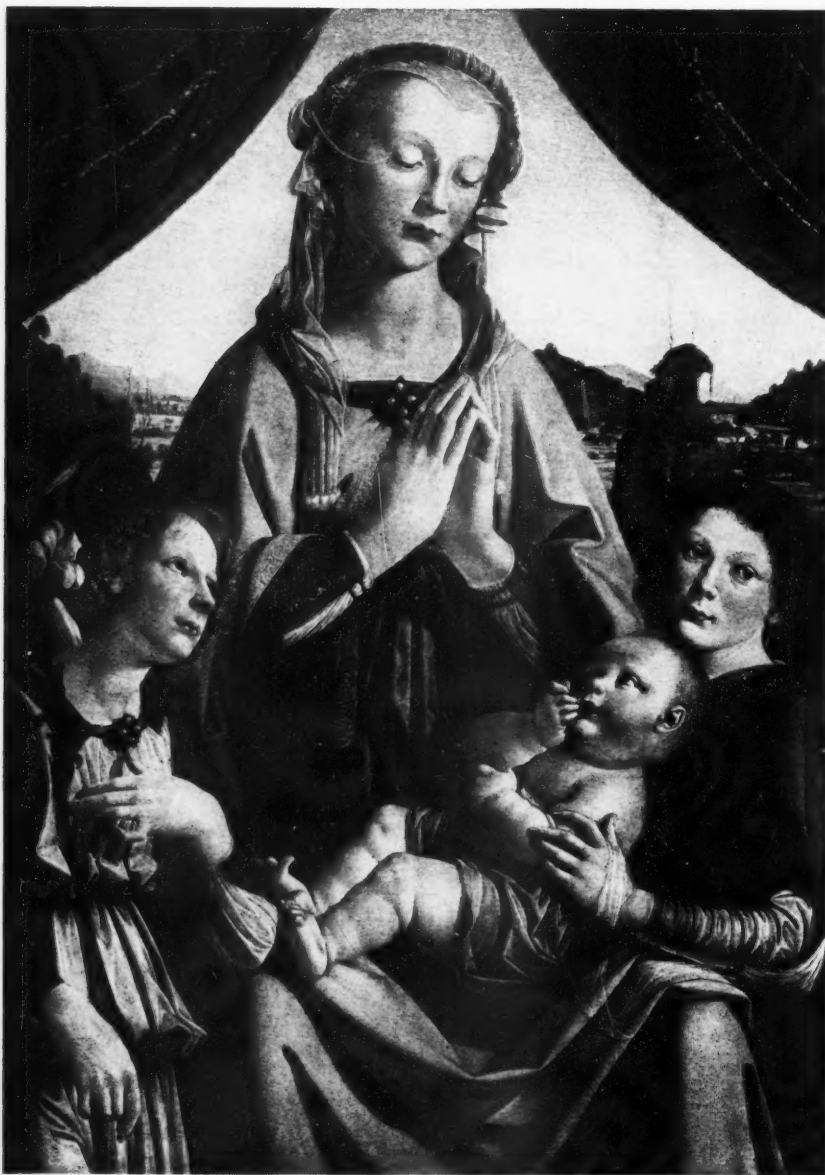
CONCERNING the canon of Leonardo's works there are two sharply opposed views. Such critics as Berenson, Gronau and Jens Thys reject virtually all the early works which tradition and criticism have ascribed to the master, and relegate many of the later works to the atelier. Such critics as Bode, Müller-Walde, Müntz, and Sirén accept most of the traditional early works and many of the later ones. Within the limits assigned me I cannot hope to arbitrate this contest, but I may at least show how recent discovery has tended to justify the more liberal and inclusive view.

Many years ago Baron Liphart saw in Russia a little unfinished Madonna which he confidently ascribed to Leonardo. A few years ago it turned up in Petrograd in the possession of Mme. Benois, who ceded it to the Hermitage. The slight but charming little picture (page 114) was certified as a Leonardo by numerous authentic sketches, especially by a sheet in the British Museum (page 121). This relation was promptly pointed out by Herbert Cook and Gronau. Gronau showed as well a whole series of imitations, ranging from Raphael to the Master of the Death of the Virgin, which proved that Leonardo's Madonna was famous for a generation after it was painted. Against this weight of evidence, the conservative critics have mostly alleged merely that the Benois Madonna is a copy of a lost original. Only Jens Thys has seen that this is to grant the entire case. To save his view of early Leonardo he turns over the picture to the third rate eclectic, Sogliani, supposing that Sogliani used

Leonardo's sketches. This view is a desperate remedy for a desperate emergency.

Happily we can date the Benois Madonna. The sketches for it clearly are of the year 1478, and the picture may be one of the "Two Virgins Mary" which Leonardo noted on a famous sheet in the Uffizi, dated September 2, 1478. The significance of the Benois Madonna is that it shows Leonardo in his twenty-fifth year to have been still an immature and essentially a primitive master. For the quality of the picture, despite its rather highly developed light and dark, and its somewhat audacious swing, is still quite primitive. Leonardo's great forward step was not taken till a year or more later, in the Adoration of the Magi. Moreover, if the Benois Madonna be by Leonardo, then the little panel of the Annunciation, in the Louvre, cannot be set in the late sixties, with Berenson, Thys, and Gronau, but rather in the late seventies. And by the same token a whole class of early pictures fall, nicely into place as Leonardo's work in his years of tutelage. The Angel and the Landscape in Verrocchio's Baptism could well be the earliest Leonardo we have, perhaps about 1470.

The famous and much disputed Annunciation of the Uffizi would be again a picture planned by Verrocchio and executed by Leonardo. Its date, determined by its prototype, Baldovinetti's Annunciation at S. Miniato, should be about 1475. I do not see how we can deny Salomon Reinach's contention that the lovely Verrocchian Madonna in the National Gallery was also executed by



Madonna with Two Angels. By Leonardo, as Verrocchio's Studio Assistant.
In the National Gallery, London.



The Baptism (the General Design by Verrocchio, the Angel at the left and most of the distant landscape by Leonardo), in the Academy, Florence.



Madonna of the Flower (Benois Madonna), by Leonardo, in the Hermitage Gallery, Petrograd.

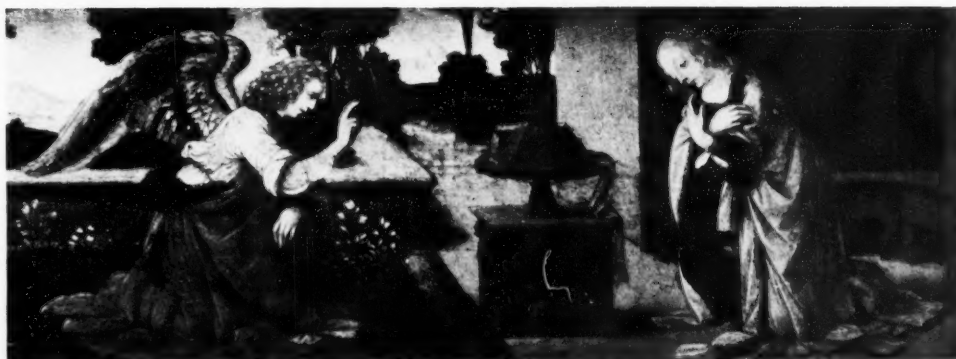


The Virgin of the Rocks, by Leonardo, in the National Museum of the Louvre, Paris.



St. Anne with the Virgin. Cartoon by Leonardo, in the Diploma Gallery,
Burlington House, London.

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The Annunciation, by Leonardo, in the Louvre, Paris.

Leonardo, presumably from his master's design. It should be a little earlier than 1475. The exquisite Annunciation of the Louvre is palpably Leonardo's personal emendation of the design of the Uffizi Annunciation. Having been forced to do the latter by prescription, he now repeats the theme his own way. The work is free and the sentiment highly developed. It could well be of about the time of the Adoration of the Magi and the Louvre Madonna of the Rocks, to wit, about 1480. To this period, or a little earlier, belong also the unfinished St. Jerome of the Vatican, and probably the cartoon of the Madonna with St. Anne in the Diploma Gallery, London.

The case for the so-called portrait of Ginevra de' Benci, in the Liechtenstein collection, Vienna, and the Madonna of of the Pink at Munich is much less certain. Such Verrocchian pictures might conceivably be early Leonardos, but there seems no convincing reason for including them.

If these inferences from the Benois Madonna be tested, it will be seen that we gain from them a probable and coherent view of Leonardo's early development. Until his twenty-sixth year he remained the modest executant of

Verrocchio, and a primitive, working chiefly on his master's designs (The Baptism, the Uffizi Annunciation, the London Madonna, possibly the Munich Madonna), he amused himself meanwhile by those occasional pictorial caprices, all of them lost to us, which Vasari has so vividly recorded.

The first serious move towards emancipation was made in the autumn of 1478 in the numerous sketches for "Two Virgins Mary." One, apparently never executed, was the Madonna of the Cat; the other the unfinished Benois Madonna, better called the Madonna of the Flower. After 1478 the process of emancipation, now that he had left Verrocchio's shop, was greatly accelerated. Within five years we have such marvelous beginnings as the St. Jerome, the Adoration of the Magi, and the Cartoon of St. Anne; that little jewel, the Annunciation of the Louvre, and the Louvre version of the Madonna of the Rocks. These four or five years, as he passed into his thirties, were pictorially Leonardo's most productive. It tells much about his temperamental limitations that few of these works were carried to completion. In all these works very naturally a savor of primitive beauty

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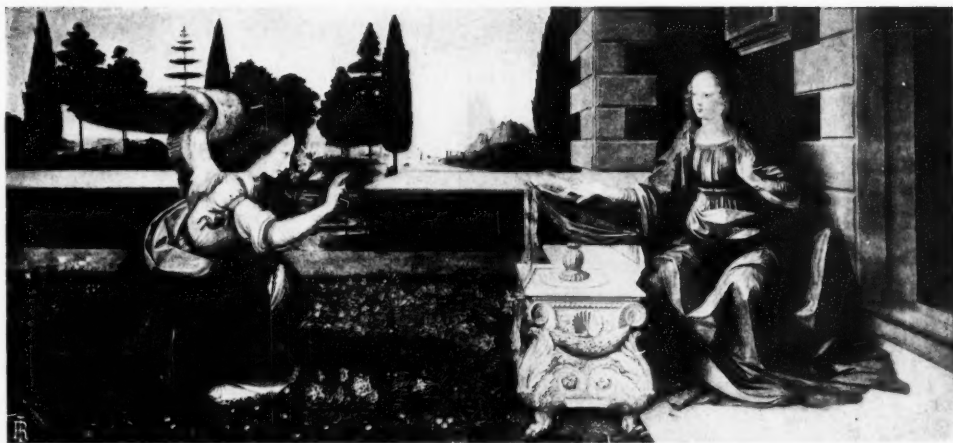
The Adoration of the Magi (unfinished), Leonardo, in the Uffizi Gallery, Florence.

persists under the more skillful chiaroscuro and purposeful arrangement.

Beltrami's discovery of the documents concerning the London Madonna of the Rocks casts as much light on Leonardo's later years as the Benois Madonna does on his youth. With his partners, the brothers Preda, in 1483, Leonardo had promised to paint an elaborate altarpiece. It was to be set in a gilded and sculptured reredos on

the altar of the Confraternity of the Conception, in the Church of San Francesco, Milan. It was the moment when Leonardo was overbusy in the court circle and plagued by the gigantic task of the Sforza horse. Besides, the contract was an ungrateful and unprofitable one. The artists applied for judicial relief, probably before 1494. Not long after followed the engrossing episode of the Last Supper. Then the

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The Annunciation, by Leonardo, under Verrocchio's direction, in the Uffizi Gallery, Florence.

French came to Milan, and Leonardo slipped away to Venice, leaving the picture unfinished. The Confraternity bided its time. At any stage they could have had Ambrogio Preda finish the picture, but they had set their heart, not unreasonably, on having a Leonardo. They had to wait some six years more.

When in 1506 Leonardo was called to Milan by the regent, Charles d'Amboise, the Confraternity bestirred itself. To put it legally, in an act of April 27, 1506, they mandamused Leonardo in advance of his arrival at Milan, into finishing the picture, offering the terms which he had earlier demanded. Leonardo needs must fulfil his contract. Doubtless he did it with some reluctance. The mere fact that he had done, what he never otherwise permitted himself, repeated an earlier composition, shows that he never put much heart into the work. When the last payment of 100 lire was made on October 23, 1507, he refused his urgent clients the civility of an appearance in person, sending Ambrogio Preda in his stead.

Being at this time much occupied with engineering works, Leonardo took several months to finish the picture. The Confraternity had waited about twenty-four years for it.

Professor Adolfo Venturi, in a recent note on Beltrami's article, thinks the discovery leaves the problem of the London Madonna of the Rocks just where it was before. Leonardo may still have left the actual painting to Ambrogio. I cannot think so. I believe these Milanese patrons, as the whole litigation shows, were far too clever to wait twenty-four years for a real Leonardo and then fail to get it. Besides the picture is beyond Ambrogio's quality. I think we must look at it as a Leonardo, but as a somewhat slack Leonardo, done against the grain, and so not quite wholehearted. Indeed it seems unlikely that he painted anything with zest after the Battle of Anghiari and the Mona Lisa. At fifty-three, in 1505, he was already an old man, and a harassed and preoccupied old man. We must expect a certain relaxation in the later work. His heart



Terra-Cotta Madonna, by Leonardo, as Verrocchio's Studio Assistant. In the Metropolitan Museum, New York.

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was elsewhere. But if the London Madonna of the Rocks is in its entire visible execution a late Leonardo, of the year 1507, then the Madonna and St. Anne of the Louvre, which shows precisely similar characteristics and defects, is also a late Leonardo from the master's own hand. The prevalent theory of student execution in this lovely work falls away. It is just what the work of a jaded and distraught great master should be. Since it was frequently imitated at Milan, it is pretty certain that it was painted there before September, 1513, when Leonardo went to Rome. It may well be some years earlier. There unfortunately was nobody to mandamus the dilatory master into finishing it. At his death it remained unfinished, as we now see it, in his studio, and happily his assistant, the amiable Melzi, knew too much to add the completing touches.

May I close these casual remarks with a word on Leonardo as a sculptor? From his own words and Vasari's statements we know that Leonardo was a trained sculptor. Vasari had seen many heads of smiling women from the early period. It is certain that Leonardo executed much sculpture in Verrocchio's *bottega*, and it is at least probable that he modelled many pieces on his own account. It is probable too that sufficiently delicate sifting of the Verrocchian school pieces would reveal here and there the hand of Leonardo. Dr. Bode has ascribed a considerable group of animated reliefs to the master, the so-called Discord, the Calvary of the Carmine at Venice, and the Flagellation at Perugia being the most important. Few critics have concurred in the attributions, which indeed were never supported by objective evidence, and Dr. Schubring has very plausibly transferred the entire group to the



Madonna of the Flower. A Sketch by Leonardo, in the British Museum.

Sieneſe maſter Francesco di Giorgio. Lately Dr. Sirén has revived an old attribution of Sir Claude Phillips's and has cauſtiously aſcribed to Leonardo an admirable little Madonna in terra-cotta, at South Kensington. In the break of the draperies and the general accent it does indeed accord with the early paintings which Dr. Sirén, I think rightly, aſſigns to Leonardo. For my own part, however, I cannot imagine early Leonardo in a mood ſo ornate and ſaccharine. It ſeems to me that the authorities of South Kensington are near the truth in reading this exquisite figurine not as the incipient phase of Leonardo, but as the moſt developed

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Study for a picture of the Virgin and Child with Cat, by Leonardo, in the Uffizi Gallery, Florence.

and sophisticated phase of Antonio Rosellino.

With considerable trepidation—for it is about the readiest way to be thought a fool—I suggest that the polychromed terra-cotta Madonna, in the Metropolitan Museum, ascribed to Verrocchio, is by Leonardo. That conclusion I jumped at from seeing it reproduced alongside of Leonardo's sketch for a Madonna in an article by Dr. Sirén. I simply repeat the juxtaposition (page 120), hoping that it may strike the reader as it did me. When the Metropolitan Museum acquired this slight but exquisite piece, I wrote against a considerable body of critical scepticism, that it was a rather early Verrocchio. That was, at best, only half right. The piece is too amateurish for Verrocchio at any period. The modelling of the child, though alert and expressive enough, is in its occasional incorrections and feebleness, below the

level of Verrocchio's *bottega*. His accredited shadow, Francesco di Simone, for example, is always more professional and withal distinctly more dull. It is the joyous, amateur quality in the piece, with the sense of genius that does not quite command its technical means, that makes me think it an early Leonardo. Even more the identical gracility of the type in the relief and the drawing, with a kind of spiritual identity also, seem to me evidential for the same mind and hand.

The drawing itself is somewhat enigmatic. Its theme allies it to the Madonna of the Cat and the year 1478. But where in the loose and impetuous drawings of that time do we find anything like the patient, unbroken, timid, yet expressive line of this Madonna? The mere touch resembles the early Verrocchian sketch book in the Louvre. The Uffizi drawing is done, as Dr. Thys remarks, in "a peculiar bluish-green ink which Leonardo does not use elsewhere." This and its hesitating quality are reasons for dating it much earlier than the sketches of 1478. The Child is oddly balanced on a sculptor's modelling turn-table. Is it rash to guess that this is the very stand on which Leonardo, perhaps in the earliest years of his apprenticeship with Verrocchio, set up the New York Madonna? Both the relief and the drawing breathe the feeling of Verrocchio's David of 1465, and should not be much later. As for the relief, it is unquestionably a shop piece, which was sold as a Verrocchio. But if it is a shop piece created by Leonardo da Vinci, it must count among the most interesting monuments of the early Renaissance, for it may represent to us those heads of smiling women which evoked Vasari's wonder and admiration.

Princeton University

CURRENT NOTES AND NEWS

The Chautauqua Art and Archaeology Week and Humanistic Conference, July 10-15

THE Art and Archaeology Week of the Chautauqua (N. Y.) Assembly, July 10-15, which concluded with a series of Humanistic Conferences Friday and Saturday attracted to Chautauqua a considerable number of representatives of high schools and colleges as well as of men and women interested in art and culture throughout the country. The principal features of the program were illustrated lectures by James Henry Breasted on "Our Rediscovered Ancestors by the Nile and Euphrates"; by Francis W. Kelsey on "St. Peter and St. Paul in Rome"; by Mitchell Carroll on "Athens, the City of the Violet Crown"; and by Henry Turner Bailey on "Some Archaeological Notes on the New Testament"; and addresses by Mr. Breasted on "Archaeology and History," by Mr. Carroll on "Our Archaeological Heritage," by Mr. Bailey on "Theseus and the Minotaur," and by Mr. Rossiter Howard on "Our Architectural Heritage from the Renaissance."

Readings were given by S. H. Clark of the "Antigone" of Sophocles, the "Trojan Women" of Euripides, and the "Clouds" of Aristophanes.

Later in the season the "Antigone" of Sophocles and the "Electra" of Euripides were presented in the Amphitheater by a group of players from Illinois College, under the direction of Rollin H. Tanner.

The Humanistic Conferences were opened by an address by Francis W. Kelsey on "Classics in High School and College." Papers were read by B. L. Ullman on "The New Latin"; by Louis E. Lord on "The Classics and the Asphyxiating Gas of Educational Requirements"; by Henry Browne on "How to Quickening Appreciation of the Classics"; by Rollin H. Tanner on "Modern Productions of Greek Tragedy"; and an address was made by James Henry Breasted on "Twentieth Century Methods of Teaching Ancient History." The informal conferences at a dinner and a luncheon on the general subject of humanizing the teaching of classical and archaeological subjects proved to be of especial value. The sessions were presided over by Mr. Kelsey, Mr. Lord, and F.W. Shipley, President of the Archaeological Institute, who also addressed the Chautauqua Educational Conference on "Present Aspects of Classical Education."

At the final session resolutions were passed commending to the Chautauqua Institution the advisability of having under its auspices an annual conference on similar lines, and of arranging from year to year, as circumstances permit, a series of lectures and conferences similar to those of the Art and Archaeology Week of 1916, in such a way that each year may illustrate the correlation of a different group of humanistic studies.

ART AND ARCHAEOLOGY

The Classical Conference at Columbia University

PROFESSOR EGBERT, Director of the Summer Session of Columbia University, scored a distinct success when he persuaded Professors Gilbert Murray and Paul Shorey to come to Columbia and conduct from July 11 to July 24 a Conference on Classical Studies. Several hundred students and teachers of the Classics testified to their appreciation of this opportunity by their constant attendance and enthusiastic attention.

There are no two men more alike in their belief in and devotion to the classics than Professors Murray and Shorey; at the same time no two men put forth their efforts and get their effects in a more different way. Professor Shorey with his trenchant wit drives home the philosophy and literature of the Greeks; Professor Murray with his soothing humor instils Greek poetry.

This is not the place to try to give an idea of the things that were said in the lectures, for they will doubtless appear in due time in printed form to speak for themselves. Every afternoon for two weeks Professor Shorey lectured at four o'clock, and Professor Murray at five, and on three evenings during the second week special conferences were held, at which Professor McCrea presided, when both visiting professors read papers or talked on the relation of classical studies successively to the secondary schools, to the college, and to the university.

Professor Shorey's twelve lectures covered the wide range of the religious life and thought of antiquity as revealed in Greek literature, the imaginative quality of the style of Aristophanes and Plato, the religion of the poets, of the philosophers, and of the statesmen of Greece. Professor Shorey's erudition was never better displayed than in this series of brilliantly sustained lectures, and of course Aristophanes gave him a chance to launch some of his extremely pat and catchy modern slang and doggerel translations. Professor Shorey has a trip-hammer style of delivery which, with its weight of material, might perhaps have flattened out any audience except one susceptible only of being shaped into parts of a serviceable classical dynamo; but Professor Shorey knew his audience.

Professor Murray's reputation is long since secure on this side of the water. His scholarly work, his translations of Euripides, his recent delightful little book "Euripides and His Age," had only whetted the eagerness with which his hearers looked forward to his twelve lectures on the Greek Epic and the Greek Drama. Nor were they disappointed. His history of the rise of the epic, his interpretations of poetry and drama, and his readings both of the Greek and of his own translations left no doubt even in the minds of the uninitiated that here for the classics was the savor of incense. The conference as a whole was inspiring.

R. V. D. M.

ART AND ARCHAEOLOGY

Sacred Buffalo Robes of the Chippewas

MRS. Harry Waln Harrison has presented to the Museum of the University of Pennsylvania a sacred buffalo robe on which are painted symbols sacred to the Chippewa Indians. The Chippewas seem to have been the only Indians who decorated buffalo robes with pictographs of a sacred character. The historical paintings on the robes of the Sioux are of a different type. The robe given by Mrs. Harrison does not show the yellow sun, as most of the Chippewa robes do, but in a circle at the left flank corner is a splendid buffalo head. Between this circle and the circle at the other flank corner are two medicine men dancing to the left, and above them are three decorated shields. It is supposed that these sacred robes were worn at religious dances and feasts, and that each medicine man had his own particular set of symbols on the robe he wore. R. V. D. M.

Mysterious Easter Islana

PERHAPS we shall soon have the solution of the mysterious Polynesian island 2100 miles due west of Chili, which was named Easter Island because it was discovered on Easter Sunday, 1721, by the Dutch Admiral Roggeveen. An English explorer, W. Scoresby Routledge, has just returned from a fourteen months' period of work there, and the publication of his conclusions are awaited with great interest.

Easter Island is a volcanic formation, nearly triangular in shape, with an area of about thirty-four square miles. Scattered around this island are 555 images of gray lava, mostly carved heads, the smallest being three feet long, and the largest seventy feet long, with a weight of nearly two hundred and fifty tons. Not a monument on the island is *in situ*. There are also inscriptions of strange characters, some of which Mr. Routledge claims to have had translated by the only survivor on the island who knew the ancient written language of the early race of people who developed this island civilization. There are many other strange sculptures on the cliffs, there are stone houses along the beach, supposed to have been used as shelters during the time the islanders poached eggs from their annual visitors, the sea birds. The women on the island today tattoo themselves in a different way from any other known people, and perhaps Mr. Routledge may have found an interpretation for this. Dates varying from the time of Christ to 3000 B. C. have been assigned to the objects found on Easter Island. Mr. Routledge doubtless will be able to set some certainty to the chronology of the early people of the island. R. V. D. M.

BOOK CRITIQUES

THE GREEK TRADITION. Essays in the Reconstruction of Ancient Thought. By J. A. K. Thomson. New York, 1915: The Macmillan Co. Pp. xiii, 248.

This is an important and very scholarly book by the author of the *Studies in the Odyssey*. It is in the spirit of Gilbert Murray, who evidently has furnished much of the inspiration, and who writes the introduction. It aims to tell us what classical literature and civilization mean, what is fine about them, and how they came to be what they are. There are some very inspiring and eloquent passages, and every lover of Greek literature and life will find much of interest in these chapters or essays. The sanest and best essays are those on Thucydides, Greek Country Life, The Springs of Poetry, and Some Thoughts on Translation. The other chapters are, On an Old Map, Mother and Daughter, Alcestis and Her Hero, A Note on Greek Simplicity, and Lucretius.

The chapter on Lucretius is very interesting because of the parallels cited with Baudelaire, and that on Alcestis and Her Hero gives a fine characterization of Heracles. "It is because he comes of the Kômos that he possesses unmeasured strength, that he is such an enormous eater and drinker, that he has so many children, that he is (in the true and original sense) *comic*. He is all that the revellers desire their leader to be." On page 241, however, reference should have been made for *Studies of Heracles* to Friedländer's *Herakles*, and to Luce in *Harvard Studies*, xxiv, p. 161. There are on pages 21 ff. some good comments on the originality of Greek art and literature. "The Greek artist always brought something of his own

to the conventional theme or *motif* which he was treating, while we, who in our morn of youth defy the conventions, visibly suffer when our own standards come to be challenged in their turn." The book lays great stress on anthropology as so many of the recent publications of Gilbert Murray, Miss Jane Harrison, and other English scholars have been doing (cf. the essays in Marett, *Anthropology and the Classics*). The influence of primitive customs is important and it probably is true that "The earliest poetry is, by all the evidence, a form of charm or spell. This *carmen* is the accompaniment of a magical dance. It is a kind of interpretation or description of the dance, which has always a mimetic or semi-dramatic character." But there is too much emphasis on origins and survivals of primitive superstitions. There are very few errors or misprints, the worst being Cleon for Creon, page 227. Page 238, CIA should be IG. What evidence is there for the Arcadia of Theocritus, page 70? Page 235, the song in The Miller's Daughter

And I would be the girdle
About her dainty, dainty waist . . .

goes back to the famous twenty-second Anacreontic as well as to the *skolion* quoted, and has a long tradition in Ovid, Shakspeare's Romeo and Juliet, Ronsard, Edmund Walter's On His Lady's Girdle, Thomas Moore, etc., as well as in Tennyson.

It is the anthropology and modern parallels in the book that give it its great interest, and anyone who wants a readable appreciation of the value of Greek civilization and cares to understand the genius of the Greeks should have this book.

D. M. R.

